

MANUFACTURERS RECORD

A Weekly Newspaper Devoted to the Industrial, Financial, Railroad,
Mining, Contracting, Engineering, Building, and General
Business Interests of the South and Southwest

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On This Thanksgiving Day

As the people of this Heaven-favored land on this Thanksgiving Day meet at their accustomed places of worship to render thanks unto Almighty God for the blessings which He has vouchsafed to us, it is meet that with hearts full of praise and thanksgiving for our blessings, we should remember the overwhelming sorrows and agonies which have engulfed all of Europe.

As we look out upon our fertile fields which have yielded the most abundant harvests ever known, as we watch the cattle upon a thousand hills furnishing to poor as well as to rich more food than any other nation has ever enjoyed, as we contemplate the busy whirl of the spindle and the loom and the wheel, and hear "the roar of the furnace, the buzz of the saw and the throb of the locomotive" as increasing activity in all industrial pursuits furnishes employment to the people of the land, as we see railroads once more burdened with traffic, as we meditate on these things and think of the peace which broods over the nation, we may well contrast this happy condition with the rivers that run red with human blood in Europe, with the streams that are choked with the dead and the dying, with the vast stretches of mile after mile where the flower and full fruition of Europe's best civilization is giving up its life.

As we listen to the roar on hundreds of battlefields and think of the awful suffering, and hear the wail of the hundreds of millions living at home in greater agony even than those who face the cannon; as our thoughts turn to the widows and the orphans whose anguish is increased by desperate poverty and the lack of food to sustain life, let us reverently on bended knees render thanks unto Almighty God for the blessings given unto us.

And let us vow unto Him a faithfulness to the trust committed to us, and a readiness to meet every call of duty.

Let us remember the language of Robert E. Lee, the kingliest man of all the ages, "Duty is the supremest word in the English language," and with a recognition of this supreme word, duty to God, duty to our country, duty to humanity and to the world's civilization, make certain that this land of freedom, this land of religious liberty, shall never by our supineness be subjected to the awful horrors and the indescribable outrages which have laid Belgium and Servia and much of other parts of Europe in the dust and covered them with sorrow such as the world had never known.

BALTIMORE, NOVEMBER 25, 1915



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PUBLIC OWNERSHIP DESTRUCTIVE OF INDIVIDUAL INITIATIVE.

THE evils of public ownership, municipal or national, were forcibly pointed out by Jonathan Bourne, Jr., former United States Senator from Oregon, in an address delivered before the San Francisco Convention of the American Electrical Railway Association in October. The blighting effect of government ownership of public utilities upon the constructive spirit of enterprise among the most active and capable of our people was pointed out as a menace, not only to the welfare of this generation, but to the progress of our people for all time to come. Protection of citizens in their rights and not destruction of incentives to individual enterprise is the proper function of government. Public ownership tends to destroy initiative and remove the hope of reward.

Followed to its logical conclusion, the government would ultimately become owner of all the railway, telegraph, telephone, electric railway, express and water transportation companies, which would give the government an army of employees numbering more than 3,000,000 people. The tendency would be to establish in the public mind a view of the government as an employer. The individual citizen would be encouraged to look upon the government, not as an institution which he should support, but as an institution which should support him. There would become deeply imbedded in the minds of the people the idea that the government is an institution separate and distinct from themselves, to which they can look for every service they may need. This attitude of mind would be entirely destructive of that spirit of patriotism which is nourished by the citizen who regards himself as a supporter of the government rather than its dependent. Instead of studying to devise a new and desirable service which he himself can render in return for satisfactory compensation from his fellow-citizens, his tendency would be to think of some new service the government can render him.

With 3,000,000 employees, they and their friends would be in a position to absolutely control presidential and congressional elections. A huge public service machine would thus be created, which could be, and certainly would be, utilized by administrative officials to perpetuate themselves and their friends in control of government—national, state, or city. The country would thus become a government of office-holders, by office-holders and for office-holders. As there would not be offices enough to go around, what kind of a fix, think you, the rest of us who have to make our living would find ourselves in?

Senator Bourne's address commends itself to the thoughtful consideration of every American voter.

President Wilson and Former President Roosevelt Write the Manufacturers Record in Regard to Our Campaign About National Preparedness in Relation to Iron and Steel.

IT has probably not often happened to any newspaper in the land to receive on the same day letters from the President of the United States and a former President discussing a policy for which that newspaper stands. But this has happened to the MANUFACTURERS RECORD. It is all the more interesting from the fact that the two men are of different parties.

In reply to a letter summing up some of the main points made in the recent discussion in its columns in regard to the danger of having the iron and steel and munition business of the country dependent almost wholly upon Lake Superior ores, President Wilson expresses his appreciation of the gravity of the situation and his deep concern.

Some of these facts had already been presented through the MANUFACTURERS RECORD to members of the Cabinet, by whom they had been discussed. It seemed wise, however, in view of the importance of the situation, to condense into as brief a statement as possible the more important features of this situation and to bring them directly to the attention of President Wilson. His letter shows his deep appreciation of the situation.

On the same day in which this letter was received from President Wilson, the MANUFACTURERS RECORD had a letter of equal heartiness from former President Roosevelt, in which, referring to a previous letter from him, he said:

"You are very welcome to make public that quotation from my letter. Let me add how pleased I am with the editorial you have just sent me, that of Nov. 11th."

The quotation to which he refers was contained in a personal letter of Nov. 8th, in the course of which he said:

"I appreciate that editorial; most of all, I appreciate the fight you are making for Preparedness."

It is especially gratifying to the MANUFACTURERS RECORD, not from any narrow sectional point of view, but from that of a broad national spirit, that two men of such divergent views on many subjects as President Wilson and former President Roosevelt should thus, the very same day, in letters to the MANUFACTURERS RECORD express their concern over the situation. May this fact be indicative of the solidity of the country uniting men of all parties on this vital question.

In the campaign which the MANUFACTURERS RECORD has been carrying on it has sought to unite people of all sections and all parties on this one great question. It is a question of vital interest to the nation, in which other sections are as deeply concerned as is the South. Indeed, it seems to us to be more important to other sections, by reason of their greater wealth and greater population and more vulnerable position, than to the South itself. But if in the solution of this question there can be developed a sincere and hearty co-operation in the fullest spirit of national life, sweeping away every thought of sec-

tionism in the broader development of the iron and steel and kindred interests in the South and Southwest, a very great blessing to the whole nation would be the result. No longer would there be any feeling of antagonism between the industrial interests of these sections, any more than there is today any antagonism between the iron and steel interests of the East and of the West.

If in broadening their horizon by broadening their own activities in the development of the South the financial and industrial leaders of other sections can be made to look upon the South with its vast resources as the nation's greatest undeveloped asset, capable of being made one of the richest regions on earth, to the limitless benefit of the whole country, then the MANUFACTURERS RECORD will have achieved the work that it has been endeavoring to carry out in this campaign; and in doing this, it will have inaugurated a plan, and the only feasible plan, by which there can be wrought out a well-rounded campaign, giving assurance of preparedness in time of danger if we should, unfortunately, ever be engaged in war.

The MANUFACTURERS RECORD yields to no one in its desire for peace. It hopes that the time may come when from one end of the earth to the other there may be accepted in its fullest meaning that song of the angel choir on the plains of Judea:

"Glory to God in the Highest;
On earth peace to men of good will."

Nevertheless, we recognize that this time has not yet come, and that the passions of men still control to a large extent, and that in the war spirit which pervades the world we must save ourselves from the possibility of such indescribable horrors as have swept over Europe.

REALIZATION OF FLAGLER'S DREAMS.

A GOOD many people were skeptical as to the feasibility of the plan of Henry M. Flagler when he undertook to build his line to Key West with a view to carrying loaded cars without breaking bulk between Cuba and this country. The success of the line, however, in fulfillment of Mr. Flagler's far-sightedness, is shown in the fact that increasing business has necessitated the building of a duplicate steamer, as announced in the MANUFACTURERS RECORD last week. But a still more striking illustration is found in the annual report of President Beardsley, just received, in which he says:

The gross earnings for the main line showed a decrease of \$4,863.54 from the previous year, but owing to the earnings from the ferry, this loss was turned into an increase of gross earnings of \$115,831.63 for the period.

That is a very striking tribute to the wisdom of establishing this ferry system, and at the same time gives some idea of the rapid development of the business between Key West and Cuba.

Ninety-Five Per Cent. of the Steel Production of the Country Dependent Upon Ore Supplies That Could Be Instantly Shut Off by War.

NATIONAL PREPAREDNESS IS WHOLLY STAKED ON THIS VERY UNSAFE FOUNDATION.

IN 1913, selecting that year in preference to 1914 because business was then at a more normal stage than in 1914, the total production of iron ore in the United States was 61,980,437 tons.

This production was divided as follows:

	Tons.
Minnesota	33,658,793
Michigan	12,841,093
Wisconsin	1,018,272
Total Lake Superior ore.....	52,518,158
New York.....	1,459,628
Pennsylvania	489,056
Alabama	5,215,740
Virginia	483,843
Tennessee	370,002
New Jersey.....	325,305
Georgia	175,236
W. Va., Ky., Md., N. C.....	82,243
Missouri	39,354
Ohio	7,549
Other States.....	834,023
Total	9,462,279
Total for the country.....	61,980,437

The production of ore in the Lake Superior district, as shown by these figures, was over 86 per cent. of the entire output of ore in the United States, but as this ore is somewhat richer in metallic contents than the leaner ores of some other States, it furnished about 90 per cent. of the iron production of the country.

In 1913 the total production of pig-iron in the United States was 30,966,152 tons.

The production in the States dependent upon Lake Superior ore and a limited quantity mined in New York and New Jersey was as follows:

	Tons.
Pennsylvania	12,954,936
Ohio	7,129,525
Illinois	2,927,832
Indiana, Michigan.....	1,775,883
Wisconsin	367,326
New York, New Jersey.....	2,187,620
Total	27,343,122

With the exception of a small production of less than 2,000,000 tons in New York and New Jersey and about the same amount of foreign ore, the entire production in the States named was based on Lake Superior ore. - Moreover, considerable Lake Superior ore was used in West Virginia, but the output of that State is, in the statistics of the American Iron and Steel Institute, combined with Kentucky. Taking all other States than those named, the pig-iron production was as follows:

	Tons.
Maryland	289,959
Virginia	341,815
Alabama	2,067,911
West Virginia, Kentucky.....	315,731
Tennessee	280,541
Mo., Col., Wash., Cal.....	324,263
Massachusetts, Connecticut.....	12,810
Total	3,623,030

Of the total production of pig-iron of 30,966,000 tons, 27,343,000 tons were made in the States dependent almost wholly upon Lake Superior ore. Moreover, there was a production of 289,000 tons in Maryland based almost exclusively on foreign ores, and it should be added that a very limited amount of foreign ores were used in Pennsylvania by two or

three companies, but the aggregate imports of iron ores for the year amounted to only 2,594,000 tons. Pennsylvania, which produced 12,954,936 tons of iron, had a total output of only 489,056 tons of iron ore, or less than 6000 tons in excess of the production in Virginia.

The production of pig-iron in the South amounted to 3,286,000 tons, not counting the output of 289,000 tons in Maryland made from foreign ores. The production of the entire country, outside of the States dependent almost wholly upon Lake Superior ores, and including Maryland, which made 289,000 tons from foreign ores, was 3,623,000 tons, or about 12 per cent. of the output for the country.

Eliminating the production in Maryland based on foreign ores, the output in other States, including the South, Missouri, Colorado, Washington and California, was 3,300,000 tons, or but a little over 10 per cent. of the output for the entire country.

This situation is even more startlingly important for consideration when we take into account the production of steel rather than the output of pig-iron, for steel is the prime essential in the making of munitions of war, in the building of railroads and in the maintenance of all the great industrial structures into which steel enters.

In 1913 the total production of steel in the United States was 31,300,874 tons. Of this, Pennsylvania alone made almost exactly one-half, or 15,544,294, notwithstanding the fact that Pennsylvania produced in that year less than 500,000 tons of iron ore and looked almost wholly to the Lake Superior region for its ore supplies.

Taking the section of the East and West dependent upon foreign and Lake Superior ores and a limited supply from abroad and from New York and New Jersey, we have the following figures of steel output in 1913:

	Tons.
New England.....	200,611
New York.....	1,275,704
New Jersey.....	171,012
Pennsylvania	15,554,294
Delaware, Maryland.....	394,841
Ohio	6,755,051
Indiana	2,181,958
Illinois	2,759,026
Michigan	18,922
Wisconsin	45,501
Minnesota	863
West Virginia.....	401,490
Total	29,806,905

Here is a total for the States dependent upon the Lake Superior district, which furnishes more than 86 per cent. of the iron ores of the country, and upon foreign ores to the extent of 2,500,000 tons in 1913, of more than 95 per cent. of the entire steel output of the United States.

The production of steel in other States was as follows:

	Tons.
Virginia, District of Columbia.....	5,701
Kentucky, Tennessee.....	194,789
Georgia, Alabama.....	823,994
Louisiana, Texas.....	1,510
Colorado, Washington.....	451,322
Utah	3,190
California, Canal Zone.....	25,808
Total	1,506,313

A portion of the production of steel ingots and castings in Kentucky should be credited to Lake Superior ores, but, ignoring that fact, we find that

the entire output of steel in the South, in other States in the West and on the Pacific coast not dependent upon Lake Superior or foreign ores was less than 5 per cent. of the production of the entire country.

We thus have the amazing situation confronting this country that in the event of possible war by which our foreign ore supply would be cut off and our Lake Superior supply captured or the shipments therefrom prevented by the destruction of the Soo Canal, the entire country would have about 1,500,000 tons of steel, based on the output of 1913, with which to undertake to maintain its army and navy, to build munitions of war and to sustain its railroad and general machinery business.

A situation such as this is almost inconceivable, and the fact that the entire country has heretofore overlooked this condition can be attributed only to our shortsightedness and to our firm belief in perpetual peace.

On the face of the earth there is probably no other nation of first importance where such a condition exists. That these facts have not heretofore been given consideration by our public men or by the leaders in the iron and steel industry is an amazing illustration of shortsightedness and of the fact that we have not broadly studied the co-ordination of the industrial activities of the country with any more care than we have studied the unpreparedness of our so-called army and navy in contrast with the co-ordinated work of other countries in rounding out their industrial life in co-operation with every plan for material development and army and navy preparedness.

England, France and Russia are paying a fearful penalty for failure to fully recognize such a condition, although their position in these particulars was infinitely stronger before the war than that of the United States at present.

Germany has, with consummate farsightedness and shrewdness, worked on an opposite plan, and what that has meant in contrast with ours is indicated in a letter from a leading authority on such matters, who has given very close study to the subject and from whose illuminating letter we are able to quote, without the use of his name because of official position, the following:

"There is no question but that the sooner the entire nation realizes that it must work as a unit in education and manufacturing, in short, to make the nation one smoothly working machine, the sooner will we be prepared to take and maintain our place as one of the greatest, if not the very greatest, nations on the globe. The reason that Germany today is able to maintain itself against such a powerful alliance is that every manufactured article, every child, every colt, every ton of ore, every stick of wood and every seed is made to fit into the grand national scheme for perfecting a powerful working machine. Unity of action along the lines of manufacturing, such as is expressed in your editorials, is most essential. * * *

"With best wishes for you and your very patriotic work of arousing the responsible business men to their obligations along the line of 'National Preparedness.'"

From the opening of the Soo canals in the spring of this year up to October 31 there had been shipped through the American canal 37,388,000 tons of iron ore, and through the Canadian canal 3,249,000 tons, or a total of 40,638,000 tons. The shipments after October 31 and until the close of the canal will be crowded to the utmost in order to meet the rapidly expanding demand for ore.

Of course, a considerable quantity of ore is car-

ried in stock by the leading iron and steel companies, and a large amount is always on the docks at the Lake ports at the end of the season; otherwise it would be impossible to continue the operation of the iron plants dependent on Lake Superior ores during the long season when ice closes Lake navigation.

The amount thus carried would not, however, be a factor of any large importance under war conditions, for the shutting off of the source of supply through the closing of the canal by any disaster of war would instantaneously produce chaos in the whole iron and steel and war-munition business and leave us absolutely at the mercy of an enemy without the power to make any struggle for self-defense.

This presentation by statistics that are startling in their significance and importance as to our danger—a danger which in time of war would mean utter destruction of the iron and steel industry of the country and the immediate and hopeless defeat of the nation—demands the most serious and immediate consideration of the Government and of the great leaders in finance and industry, and the responsibility rests upon these leaders to a larger extent than upon the Government itself, for they can act promptly, and upon them depends the solution of the problem by the development of iron and steel and kindred interests on a very large scale in other sections than those now so largely developed and which depend upon a source of ore supply which could be easily captured by an enemy, or the canal through which this ore passes be easily destroyed.

This is the problem that faces the nation, and the financiers and the iron and steel men will fail to measure up to their responsibility to the country and to their own stockholders if they do not recognize this situation and act promptly in overcoming this adverse condition.

To

The United States Steel Corporation,
The Bethlehem Steel Co.,
The Midvale Steel & Ordnance Co.,
The Jones & Laughlin Company,
and the other great iron and steel organizations,
and all members of the American Iron and Steel Institute, and to

J. P. Morgan & Co. and all

The great financiers and bankers of the East and the West,

The question may well be put:

What action do you contemplate taking in the immediate future to safeguard the life of the nation and at the same time safeguard the interests of the billions of dollars now staked on an iron-ore supply which at any moment might be taken from you, leaving all the vast interests of the country absolutely helpless in an hour of emergency?

This remarkable situation, to which attention had never been called until the MANUFACTURERS RECORD first presented the matter four weeks ago, now presses for solution, and the country has a right to demand that the leaders in iron and steel and finance shall be the leaders in bringing about a change, and that without delay.

Vulnerability of Eastern Munitions Plants Not Open to Argument.

GEORGE B. HARRISON, President Air Pilots' Club, Kansas City, Mo.

Your contention that "National Preparedness" includes a safe location of our munitions factories is a most important one, and ought to be impressed again and again on those having the direct interest. The

vulnerability of the Eastern plants, even with much greater defense than now given, is too obvious to be open to argument. But we also need a great many new plants, and these ought to be located away from a dangerous zone. I doubt whether the Southern plants would be safe from air attack, but the answer to that is that less than half the cost of a single battleship put into aerial defense would give them sufficient protection on that line.

One of the excellent features of your editorial is the showing that men like yourself are giving seriously their time and experience toward a solution of one of the biggest problems ever before the nation. As Mr. Henry A. Wise Wood, chairman of the Council for National Preparedness, well says, this is a matter for the people themselves, and the men who can suggest wherein efficiency, safety and permanence may be best applied are you who stand at a similar outlook for business affairs.

Organize Civilian Engineers for Defense.

CHARLES LYON WOOD, Civil Engineer, Formerly with U. S. Coast Survey and U. S. Townsite Survey, Columbus, Miss.

Auent the interest now manifested in the matter of our national defenses, I beg leave to suggest that the civilian engineers—civil, mechanical and electrical—of military age be organized into reserve corps and be given instruction in summer camps in military engineering. The Government could thus instantly avail itself in time of war of the services of a large body of men who are physically fit and with practical experience in pioneer work of a varied sort, covering the entire United States and foreign countries also, and many of whom are able to speak one or more foreign languages. These men can build wagon roads and railroads, bridges and dams, install telephone and telegraph stations, establish work camps for 10 or 10,000 men, provision same and provide water supply and sanitation, construct topographic maps—in short, do the thousand and one things that are of vital importance to an army in the field, and which if done at all are so inefficiently done, with our volunteer forces, which must always be our main reliance. Witness our headless invasion of Cuba, whose shore line we didn't even know, while the interior was a blank. Of course, the West Point "first-class men" would look upon "civilians" with contempt, but nevertheless the country would derive immense gain.

Opinion Climbing to Higher Levels.

J. L. FOSHAY, Secretary and Treasurer John F. Byers Machine Co., Ravenna, O.

We have not missed very many of your articles and editorials on National Preparedness or on other national questions. While we have always appreciated that the MANUFACTURERS RECORD was a sterling paper, we are free to confess that our opinion of it is climbing to higher levels than formerly. As far as the writer is concerned, we do not feel that our opinion on preparedness can be of much interest, especially in its present, unformed and open-minded condition. We are free to state that we are leaning toward the side which you favor.

In regard to the business outlook, spring hopes are apparently much greener and more luxuriant in anticipation than we have seen them for a number of years. For the next six or eight weeks business will naturally be quiet in our line, a condition that is to be expected, but our anticipations for spring are high.

Timely and to the Point.

J. M. PRITCHARD, Secretary Gum Lumber Manufacturers' Association, Memphis, Tenn.

Your editorial "Co-ordinated National Development Essential to National Safety" is timely and well to the point.

SAD EVIDENCES OF LACK OF BUSINESS KNOWLEDGE BY SOME OFFICIALS.

ONE of the unfortunate conditions surrounding Administration affairs at Washington seems to be the inability of some leading officials to understand ordinary business matters, and the unfortunate tendency which they have to denounce without the shadow of a real justification the business interests of the country. This was true of the Taft and Roosevelt administrations, as it is of the present. Secretary Redfield has held pre-eminence in that position for some months, but it looks as though our good friend Secretary Daniels may come very near matching him. In a statement issued from Washington last week, called forth by an announcement that the shipyards of the country had made bids for the new battleships above the amount that the Government had appropriated for this purpose, Secretary Daniels is quoted as saying:

They came to us asking contracts on the plea that they will be needed in time of war as a part of the nation's preparedness. Now there are indications that when there is profitable business abroad they would ship supplies and munitions there and leave this Government to wait their convenience. The Government can always adopt methods necessary for the public defense. I cannot. But Congress can. If steel for these vessels cannot be had for years, what is the use of making appropriations and authorization for vessels?

The MANUFACTURERS RECORD warned the Government many months ago that every shipyard in this country would be taxed to the limit of its capacity by virtue of the demand for ships in this and in every other country. The cutting off from the world's commerce of a large part of the world's shipping has necessarily thrown upon the shipyards of this country an overwhelming demand for ships. These yards cannot indefinitely expand their facilities for building in short order, and as contracts were offered to them by the people of this and other countries, they of necessity accepted them. They would have been fools to do otherwise. Indeed, they would have been going directly contrary to the desire of the Administration that shipbuilding should be pushed to its utmost limit.

Secretary McAdoo has had a very visionary scheme for enlarging our merchant marine and building additional auxiliary ships for the navy, apparently without the slightest understanding of the fact that these ships could not be produced over night, and that every shipyard of the country was already taxed to its capacity, or practically so. Shipyards in Baltimore and elsewhere, as has repeatedly been reported in the MANUFACTURERS RECORD, have had to refuse tempting offers for ships to be built for Norwegians and other foreign ship owners, one yard alone in Baltimore having had to decline \$5,000,000 or \$6,000,000 worth of business within the last few months because it could not accept additional contracts.

Last year the total production of pig iron in the United States was 23,332,000 tons. At the present time our iron output is running at the rate of over 100,000 tons a day, or say on a basis of more than 37,000,000 tons a year. Furnaces that have been out of blast for many years are being relined and put in shape to blow in; but the limit of the iron ore output and the limit of steamers on the Lakes for increasing the iron ore supply available at present make difficult any greater expansion than that under which we are now running. Foreign demand, which has been steadily growing for the last seven or eight months, has stimulated railroad freight business, and the enormous crops, producing a tonnage far beyond anything that the country has ever had from agriculture, have added to the situation until the railroads, fearing that they would not be able to secure any supplies of steel when needed, have suddenly come into the market and are heavy buyers of cars and rails.

The producing capacity of the Steel Corporation has been oversold to such an extent that it has had to withdraw temporarily from any offers in France or in Canada. Every other steel company in the country is in about the same situation.

American buyers as well as foreign buyers are bidding big premiums in order to get quick deliveries, and this industry is now being crowded with every

ounce of energy that can be put into it by the men who are trying to meet the situation.

From the exceedingly unprofitable prices ruling for many years, and which had been intensified by the tariff situation and the fact that Europe prior to the war was preparing to flood this market with steel at a lower cost than we could make it, there has suddenly come a rapid advance in price due to this phenomenal demand. It is not a situation in which the steel people are trying to gouge the buyers either at home or abroad. Indeed, they are using their utmost endeavors to prevent a runaway market and a wild scramble and boom. But the buyers are the ones who are bidding against each other and trying to get iron and steel in all forms.

These are plain, simple, every-day facts; if any man was not in touch with them, surely he has not the capacity to hold a cabinet position or express any opinion on shipbuilding and steel questions in this day of world crisis matters.

Necessarily under such conditions the cost of building a ship has vastly increased. A price which would have yielded a fair profit twelve months ago would now bring a very heavy loss. And yet despite these facts Secretary Daniels makes his caustic criticism of the shipbuilders of the country, and his statement is only in keeping with the wholly unjustified criticisms made by Secretary Redfield of the Pacific Mail Steamship Co., because it was forced by conditions existing to sell its ships.

It is, indeed, a lamentable situation that many men called into such positions of responsibility seem to have so little grasp or knowledge of ordinary business conditions as to be willing to display their profound ignorance of such subjects by unjustifiable attacks on the business interests of the country.

Because of long personal friendship with some of these men, the writer greatly regrets the necessity of speaking thus vigorously in calling attention to their shortcomings in regard to business matters.

ONE OF OUR WEAK POINTS.

A PHASE of the subject of National defense which might prove of vital importance is discussed in the Manufacturers Record. This is the proximity of our war munition industries to the Atlantic Coast and their consequent exposure to capture in case of invasion.

Practically the entire production of munitions and ships of war is concentrated in a narrow strip extending from Connecticut and Virginia, averaging less than 100 miles wide. There are our greatest armor-making, powdering-making and ship-building plants. If these were captured, the rest of the country would be helpless.

Our steel works are dependent upon Cuban ore, which might be cut off by defeat of our Navy, or on Lake Superior ore, which in case of war with Britain might be cut off by blockade of the Lakes.

These possibilities are used by the Record as an argument for development of the iron and coal deposits of the South, Southwest and West, and the establishment of steel plants there by the United States Steel Corporation, as those sections are less exposed to occupation by an enemy.

The experience of Belgium in having her military resources turned against her should serve as a hint to provide means of equipping our Army and Navy that are more remote from points exposed to attack. For that reason ship-building plants on the Pacific Coast should be encouraged with more naval contracts than they have received.—Portland Oregonian.

The MANUFACTURERS RECORD entirely agrees with the Oregonian in the suggestion that ship-building plants on the Pacific Coast should be encouraged by naval contracts. We believe that every shipyard in this country will be taxed to the utmost limit of its capacity to take care of naval business and ships that will be needed by this and other countries for merchant marine.

We also believe that larger facilities for ship-building and for the docking of naval vessels ought to be provided on the South Atlantic and the Gulf coasts. About three-fifths of the entire shore line of the United States is in the South. A very large proportion of that vast territory is wholly unprotected and at present is without facilities for building or docking naval vessels.

While these things are true, it is also essential that there should be larger developments by great steel concerns in the South and Southwest, in order that the entire country may not be so wholly dependent, as at present, upon the Lake Superior ore supply for its steel for every purpose, from the building and running of railroads and the building of ships to the making of munitions of war.

A SOUND SYSTEM FOR AIDING MANUFACTURERS AND ENCOURAGING INDUSTRIAL PROGRESS.

AN unusual method for the development of industrial activities for a city, by helping to finance established industries and securing new ones, was brought into existence some months ago by the organization of "The Industrial Corporation of Baltimore City." This organization was formed not for the purpose of offering a bonus to new enterprises nor of lending money to existing establishments. Its main object was for the purpose of making thorough examinations into the financial standing and the possibilities of profit to existing manufacturing interests needing financial aid in order that they might help to secure additional capital or banking accommodations, and to investigate manufacturing plants seeking a location here.

In this city, as in all others, there are a great many manufacturers, some small and some large, who do not know how to make a thoroughly intelligent and reliable presentation of their status to banks, and, therefore, find it difficult to secure the banking aid that is so often needed. Many a manufacturing enterprise has failed because at a critical time in its history it could not secure the banking accommodations to which it was justly entitled, for its owners or its officials were not in a position to present the matter intelligently to financial institutions.

A man without much experience in finance starts a small factory. The business grows beyond his capital and he does not know how to take care of this increase or to find the capital to handle it. Manufacturers sometimes find that they are wrongly located and that a different location would give them advantages which they can never have without this change. Recognizing these conditions, Mr. J. E. Aldred, Chairman of the Board of the Consolidated Gas, Electric Light & Power Co., suggested the organization of a company whose sole business should be to meet these conditions. This was done, and care was exercised in finding the right man as secretary. Now when a manufacturing enterprise in Baltimore finds itself in need of capital it can go to this concern, explain the situation in absolute confidence and have its entire business thoroughly investigated with a view to seeing whether it is in shape to justify additional money or whether suggestions can be made which would put it in shape to handle its operations on a better basis and thus secure reliable data as to the plant and equipment and financial condition. Having made such an investigation, the officials of the company are then in a position to make their recommendations to the Executive Committee, and when this has been done, the concern is able to go intelligently to the banking interests and ask for financial assistance or go to individual investors and secure subscriptions to additional capital.

The same principles are being worked out by this corporation in securing new industrial enterprises for Baltimore. Some time ago it was proposed that a plant for the production of a high-grade steel should be brought from New Jersey to this city and with increased capital enlarge its operations here. Under conditions existing prior to the organization of this Industrial Corporation, that concern would have found it almost impossible to enlist the interest of Baltimore's investors. Most of them would have looked upon the proposition askance, regarding it as a company seeking to find new capital to overcome adverse conditions, or, in other words, a bonus-seeking scheme. In this case, however, the matter was turned over to the officers of the Industrial Corporation and thorough investigation was made embracing most elaborate reports as to the present condition of the company and the feasibility of its plan. With this data secured, the proposition was submitted to Baltimore investors and the entire amount of money needed was promptly subscribed and Baltimore will thus secure a new and important enterprise for the manufacture of a high-grade electric steel.

The Industrial Corporation is now beginning an advertising campaign throughout the country in which it suggests that industries needing a Baltimore plant, or superintendents or foremen of profitable concerns who desire to start similar industries for themselves, can receive financial assistance in Baltimore

on certain conditions. These conditions include reliable data as to all details of the business, and this must be subject to the most rigid investigation. Concerns unwilling to furnish this information or to have their books and accounts audited will receive no consideration whatever.

This is a very interesting proposition. It opens up a wide field for bringing manufacturers or those whose knowledge and experience justify their undertaking a manufacturing business, into closer touch with investors. The Industrial Corporation merely acts as the middle man, but in this case the middle man will not undertake to find money unless the enterprise has first met the most rigid investigation. In this way an atmosphere favorable to industrial interests can be developed, and this should result in very great advantage to individual manufacturers and to the city of Baltimore.

The plan is one which should be studied by every city in the South and Southwest. Thousands of manufacturers have failed because there was nobody in their community who could do this kind of work for them, and bankers and investors were not in a position to make an intelligent study of the matter for themselves. Necessarily such an organization must have at its head and on its Executive Committee men of unquestioned ability and integrity, whose reports would be accepted by the cities, the manufacturers and the bankers or capitalists.

A LESSON IN PREPAREDNESS THAT SHOULD HAVE CONVINCING WEIGHT.

BY getting her nitrogen from the air, Germany has been able to manufacture explosives and fertilizers independent of the nitrates which she formerly imported from Chile. In times of peace comparatively little use was made of the nitrogen extracted from the air, but the highly organized chemical science and industry of Germany was enabled to meet the war situation almost over night.

The making of saltpetre by extracting nitrogen from the air and using ammonia has developed into a saltpetre industry, so that Germany is able to supply army needs and also the needs of agriculture without depending on the outside world. Here is a striking lesson for the United States. There is not a plant in the United States devoted to the extraction of nitrogen from the air, except a small experimental one, and it would take a long time to establish a plant. The most serious part of the situation lies in the fact that scientists and capitalists have been for years attempting to secure the right to establish cyanamid plants in the South for the extraction of nitrogen from the air. Had there not been stubborn, determined opposition in Washington, a cyanamid plant would have been built a year or two ago on the Coosa River in Alabama. With friendly legislation it will still be possible to bring about hydro-electric developments on the Coosa River and also on the Tennessee at Muscle Shoals, for the express purpose of producing cyanamid.

It would seem incredible that any further obstacle should be thrown in the way of the development of these important industries through the opposition of members of Congress.

IMPORTANT TRADE CONFERENCE CALLED.

AN International Trade Conference has been arranged by foreign trade departments of the National Association of Manufacturers, to be held at the Hotel Astor, New York city, December 6, 7 and 8. It will be attended by representatives from every part of the world and will be the most notable meeting of the sort which has occurred in recent years. A very interesting program of addresses has been prepared, and delegates from a number of foreign chambers of commerce and banks will take part in discussions. Experts on foreign exchange, credit information, foreign tariffs, etc., will be in attendance to answer specific questions or for consultation with groups of delegates.

TO BUILD MUNITION-MAKING PLANT IN ALABAMA.

THE country is to be congratulated on the beginning of the movement, so vigorously urged for months by the MANUFACTURERS RECORD, looking to the development of plants in the South for the making of munitions of war, through the establishment at Anniston, Ala., of a plant for this purpose.

Early in the summer, President Mitchell of the Alabama Power Company, recognizing the importance of this situation, undertook a campaign with a view to bringing about the development of such enterprises in the South and of securing for Southern manufacturers some of the heavy war orders that are being placed by European countries. His efforts have culminated in the organization of a company at Anniston to take over the big car-building works at that point, idle for several years by virtue of business depression, and reshape them for the purpose of making electric furnace steel and the execution of orders for munitions of war. President Mitchell wires the MANUFACTURERS RECORD that "these orders are, in themselves, of little importance, but it is hoped they will lead to the ultimate establishment of an ordnance works and arsenal which will meet the support of the Federal Government in connection with its plans for 'National Preparedness.'"

The new company will install a Heroult electric furnace for the production of the high grade of steel needed for this purpose.

The establishment of this high-grade steel and munition-making plant in Anniston should stimulate the whole South, and especially the iron and steel regions of the Central South, to a closer study of the possibilities of this industry and the possibilities of the present situation.

There must be a very much larger development of iron and steel making and kindred interests in the Central South than we have seen, or, indeed, than has yet been imagined, because the entire country has now waked up to the fact that "National Preparedness" is an unrealizable dream so long as the Nation is dependent for 95 per cent. of its steel upon the Lake Superior ore region, and there is no other possible way of meeting this condition except through the development of iron and steel and munition-making industries in the Central South and Southwest. Anniston has made a good start. It deserves the congratulations of the country. The MANUFACTURERS RECORD trusts that the plant which it is now establishing will meet with such abundant success as to make it one of the great ordnance and arsenal works of the entire country and one worthy of its location in the center of a region producing high-grade iron.

The MANUFACTURERS RECORD is also glad to be able to say that the contract that has been given to this company and one or two other contracts recently reported indicate a recognition on the part of J. P. Morgan & Company and the Allies of the importance of turning a considerable proportion of this business into the South. Now that the ice has been broken, we may look for a very large amount of war-order business being given to Southern concerns wherever and whenever they are in a position to utilize such great possibilities. The importance of this has been presented over and over again to Morgan & Company and others not only through the MANUFACTURERS RECORD, but through personal letters from this office, outlining the danger of the present situation. It is gratifying to see that this work is beginning to tell.

KINDLY ADVICE FOR EMPLOYEES.

C. W. LANE of C. W. Lane & Co., Inc., Atlanta, Ga., one of the largest contracting firms operating in the South, has prepared an attractively printed poster that should be of great benefit to the company's employees, which he has headed:

"Let's Help Each Other.—

You Help Us and We'll Help You."

In this folder Mr. Lane undertakes to show the relation between employer and employee, stating that by helping each other both are benefited. The object of the folder is explained in a short introductory, as follows:

"If you will read carefully what I am going to

say and do your best to follow my suggestions, you will first help us, thereby placing us in a position to help you. Your interest and ours should be a common interest, and while you are in our employ you should feel it your duty to render the best service in your power; you should, at all times, have the interest of this company at heart. When you cease to feel interested in the welfare of your employers, you should immediately resign your position, because you are no longer competent to render valuable service. I am going to undertake to tell you how you may render service; you can do so by using your brains and your hands, as both are required in construction."

How much truth is in that statement! How many disgruntled employees would there be if before they had become dissatisfied with their work, poor pay and non-advancement, they had used their brains and their hands just a little more, thereby giving better service to their employer, who would be forced to better the employees' condition in order to benefit himself.

Under different headings Mr. Lane gives timely advice to superintendents, foremen, locomotive and steam shovel engineers and general mechanics, while several paragraphs are devoted to the interest of those laboring with the "pick and shovel."

THE GROWING SCARCITY OF STEEL AND ITS EFFECT ON MANY INDUSTRIES.

A NEW YORK correspondent, in close touch with the iron and steel situation centering around that city, in a personal letter to the MANUFACTURERS RECORD says:

These additional reports of new war orders remind me that I have run into, during the past week or so, several instances tending to confirm statements that have appeared in the daily papers that the country has run into what will amount to a serious famine of steel products for domestic purposes, almost over night.

Several of the small but substantial manufacturers of machinery and equipment for domestic uses on whom I have called lately are wailing up to find that they cannot possibly get steel to build their equipment and take care of orders coming to them, and those that are able to get it claim that they are having to pay such advanced prices when they cannot very well raise their standard prices on such things as hoisting engines, etc., that there is no profit in the business for them.

As near as I can make out from my talk with the Steel Company Thursday, they have taken some orders for large tonnages of shafting and steel bars and are now having more or less trouble with their old regular customers, because their wants cannot be promptly filled.

I was told yesterday by their advertising man that the Steel Company could not take anything for delivery earlier than next April, with the possible exception of orders for their special steel piling.

In talking with a steel man the other day, he put the blame wholly upon the small manufacturers themselves and the railroads, because they would not place their orders earlier and held off on everything, expecting steel prices would go lower.

MORE PATRIOTISM NEEDED.

THERE is a flash of cheering sanity in an article in a recent issue of the Saturday Evening Post, by Edward Mott Woolley, on "Earning a Living in Europe." After depicting the miseries of the poor and the small wages that laborers in Europe receive—conditions which have come down through generations—Mr. Woolley has this to say about conditions in America:

Some people tell us that capitalism is swallowing us in America; that the heel of an invisible tyrant is on our necks; that revolution is coming. People tell us all the time that labor is getting the worst of it; that the masses are oppressed; that the common people are under a pall and have no hope. But even granting that the life of a workman is not easy in America, or anywhere, and granting that some kinds of labor in this country have hard conditions, it is not clear what we are going to revolutionize ourselves into.

What we need is not revolution, since there is nothing in the world that offers us a pattern so good as we already have.

We need more patriotism, based on the blessings this land enjoys as compared with all other nations; and we need less destructive sentiment toward our institutions and industries. We need fewer unreasoning strikes and lock-outs, and more constructive legislation that will steer us clear of the terribly one-sided conditions that exist in most of Europe.

INDUSTRIAL PROGRESS OF BALTIMORE.

THE general halting in industrial development throughout the country from 1907 up to the present activity in iron and steel is very strikingly illustrated in a report just issued by the Census Department in regard to the manufacturing interests of Baltimore.

Between 1900 and 1909, during that splendid burst of activity which ended with the panic in 1907, the capital invested in factories in Baltimore advanced from \$107,217,000 to \$164,437,000, a gain of \$57,220,000, or over 52 per cent. During the five-year period from 1909 to 1914 the gain was only \$12,864,000, or a little less than 8 per cent. If we were to double these figures for a ten-year period, it would be seen how far short of the total increase or the percentage of increase the last five years showed as compared with the preceding period.

The whole country, from 1907 up to a few months ago, had a period of stagnation due to the small railroad building and general industrial depression, which became more and more intense following the passage of the Underwood Tariff Bill, but within the last few months there has come about a great stimulation in iron and steel and kindred interests, and this is gradually spreading to railroads and other operations until we have before us the prospect of another period of very great activity.

The Baltimore condition, however, is typical of what the whole country had to suffer, with here and there striking exceptions in individual towns and cities. Since 1914 there has been a very marked change in Baltimore and a great many millions of dollars are now being expended in large industrial operations in and around the city, due to the building of war plants, so that the next five-year period promises to show for the metropolitan district of Baltimore a growth relatively as great as that between 1900 and 1909. Briefly, the statistics of capital invested in factories and the value of products as recently reported by the census for 1909 and 1914 may be compared with the figures for 1900, covering the whole situation, as follows:

MANUFACTURING INTERESTS OF BALTIMORE.

	1900.	1909.	1914.
Capital Invested in			
Factories.....	\$107,217,000	\$164,437,000	\$177,301,000
Value of Products...	135,198,000	186,978,000	215,172,000

PERCENTAGE OF INCREASE.

	1900.	1909.	Per Increase, cent.
Capital Invested in			
Factories.....	\$107,217,000	\$164,437,000	\$57,220,000 53.37
Value of Products...	135,198,000	186,978,000	51,870,000 38.39

	1909.	1914.		
Capital Invested in				
Factories.....	\$164,437,000	\$177,301,000	\$12,864,000	7.82
Value of Products...	186,978,000	215,172,000	28,194,000	15.08

	1900.	1914.		
Capital Invested in				
Factories.....	\$107,217,000	\$177,301,000	\$70,084,000	65.37
Value of Products...	135,198,000	215,172,000	80,064,000	59.26

CO-OPERATION THAT MADE PEACH GROWING PROFITABLE.

THE advantages of co-operation in marketing the products of the farm and orchard are illustrated in a recent report of W. B. Hunter, Cornelia, Ga., President of the Georgia Fruit Exchange. The statement is made by Mr. Hunter that the Georgia peach crop for 1915 was the only peach crop sold at a profit to the growers. At the time Georgia was marketing her 4468 carloads of peaches, there were 24,629 carloads of peaches on the market from the States of Alabama, Texas, Arkansas, Missouri and Oklahoma, but Georgia alone, of all these States, operated a fruit exchange. Through the selling agency of the exchange the markets into which Georgia peaches were sent were increased from 86 cities in 1912 to 246 cities in 1915.

Credit is given to the railroads, by President Hunter, for their helpful co-operation in the marketing of the crop.

SALVATION MUST COME FROM CHANGE AND REFORM WITHIN.

COMMENTING on some statements made by the editor of the MANUFACTURERS RECORD in the Atlanta Constitution and republished in this paper, The Bessemer Weekly of Bessemer, Alabama, gives very strong commendation and says:

We make no apology for reproducing this accurate and critical diagnosis of business, civic and political conditions in the South. There is no question but what we are benighted in comparison with other sections of the Union. Those of us accustomed to occasionally getting out into these other sections of the country recognize that fact.

The extent of the whiskey habit is appalling. Notwithstanding the enactment and execution of prohibitory laws, the habit of whiskey imbibing is surprising, especially and largely with the negro race. They daily swarm in great crowds at the express office receiving their shipments. One salesman living here, but connected with a Chattanooga whiskey house, informs us that his sales alone amount to over \$100 daily. These slaves to whiskey form a motley crowd.

Mr. Edmonds' reference to the humiliation of the buy-a-bale-at-10-cents-a-pound movement recalls the fact that while the daily press of Birmingham and over the South, and the weekly press as far as known, were extolling it and rejoicing at it as a solution of the low price of cotton, the Bessemer Weekly was the only journal that we know of that promptly denounced it as a beggarly scheme unworthy of business recognition.

Again, the Bessemer Weekly has for years seemed to be the only newspaper in this section of the South that frankly expressed its views that the Underwood tariff reform was not in the interest of Southern development and prosperity, and that protection of our industries and markets by proper impost should be a prime object in national legislation.

As Mr. Edmonds says, there is salvation before us, but it must come principally from change and reform within us.

The statements made by The Weekly as to the whiskey habit and its appalling extent, especially with negroes, are in themselves appalling. The fact that one salesman sells for one house more than \$100 of whiskey per day to be delivered in Alabama, a prohibition State, is, from every point of view, a lamentable situation. It means, for one thing, that instead of a drain of \$100 a day as the wholesale price, that the real drain by the time this stuff is retailed is \$500 or more per day.

No wonder The Weekly says, referring to the great crowds that daily swarm the Bessemer office to receive this whiskey, "These slaves to whiskey form a motley crowd."

It is hard enough for the South to develop the negroes as a race, and to make decent, useful citizens out of them, without having to carry this awful burdening curse of whiskey-drinking, which results in the inevitable moral, physical and financial degradation of the negro—just as it does of the white man. We heartily commend The Bessemer Weekly for its outspoken position and wish it God-speed in the fight that it is making against this accursed trade, with all of its evils.

We likewise heartily commend The Bessemer Weekly for its opposition to the Underwood tariff, which was a very great blow to the industrial interests of Birmingham especially, and the South at large, and the only thing that saved it from being a disaster to that city and to the South was the war, which has created a prosperity started by the fact that the awful horrors of Europe are absorbing all of the iron and steel and other products which the warring nations can produce, while, at the same time, making them buyers of our products instead of sellers to us, as they would have been without the war under the Underwood tariff, and most Birmingham people fully appreciate these facts, even though the local enthusiasm for a local man makes many of them hurrah when Underwood appears.

THE PROPER THANKSGIVING SPIRIT.

A BALTIMORE printer mailed to his customers the other day a unique Thanksgiving card.

A part of it reads as follows:

Personally, we feel thankful that we are engaged in an art that we love and enjoy, regardless of profits; one that conveys the thoughts of master minds. We are thankful we live in an age in which we do not depend upon the writings on parchment for our intellectual attainments, but that we are living in an age of books, when persons of all classes have access to learning, through the invention of printing.

We feel grateful that, through the means of photo-

engraving, we are permitted to reproduce the beauties of the world in their natural colors, telling the shut-ins of things that lie beyond their vision.

We feel thankful to Him who gives all knowledge, for endowing the inventors with these and many other ideas, that through them we are permitted to be engaged in a work whereby the world may be better off because of our efforts.

For these and all other blessings we wish to acknowledge before men our sincere gratitude.

This is a beautiful ideal—love of work for the good it does others and grateful acknowledgment to the Supreme Being for the privilege of being engaged in an effort of life which is so pleasing and so fraught with possibilities of good to other people.

We don't believe that this is merely a cleverly worded advertisement. We don't believe that a man who writes in this way, even though he may incidentally get some benefit out of it, is more concerned than "to acknowledge before men our sincere gratitude."

Incidentally, he does good printing, and his name is H. E. Houck, Baltimore, Md.

AN APPEAL FOR HOSPITAL AID FOR FRANCE.

ONE of the leading business men of Baltimore who has recently returned from a visit to France, was very much impressed with the extraordinary needs of the French Hospital Service, and without appearing in print he has been quietly seeking the co-operation of leading financiers and railroad people with a view to securing contributions to aid in the good work that is being done.

Under date of October 23 a friend of his, writing in regard to the situation, said:

There is an Arab proverb which says, "Ask the second favor of the man who did you the first," and it is the remembrance of this adage which encourages me to urge you to employ your influence among your friends and your associates to do something to ameliorate the sad conditions which exist here.

He then refers to how badly help is needed,—not that the French people are not facing the situation with courage and heroism, but the enormous decrease in its business caused by the withdrawal of 4,000,000 of men from productive labor, the decrease in expenditures from foreign visitors, and the inability to realize on foreign investments, render the nation less able to meet the growing demands of the wounded soldiers and the homeless refugees. "It is impossible," says the letter, "even for a man on the spot to realize what an economic derangement has been caused by the mobilization of every healthy man between the ages of 20 and 47; and this derangement is increased by the fact that great manufacturing centers and most of the coal mines of France are in the hands of Germans."

"The American Relief Clearing House delivers gifts to hospitals, charitable organizations, assisting refugees, as donors may designate, to combatants or non-combatants; or if sent without specific instructions, to such societies as are considered to be in the greatest need."

"An almost unworked field would be out-of-date samples and remnants from manufacturers and jobbers. These are of immense value when utilized by the economical and efficient English Quakers, who are doing a marvelous amount of good in many fields."

Goods, household supplies, food and articles of wear should be shipped prepaid as far as

The War Relief Clearing House,
150 Bank Street,
New York.

"We do the rest," says this letter.

All recipients of gifts give a receipt, which is returned to headquarters in Paris, and many letters of thanks, which are frequently received, are forwarded to the donors of the gifts in the United States.

On this Thanksgiving Day, when this nation probably has more for which to be thankful than ever before in its history, certainly for the last fifty years, when blessings without number have been showered upon our country, when business is reviving and peace reigns throughout the land, does it not behoove the people of this whole country, as an expression of gratitude and with a desire to somewhat

ameliorate the sufferings in Europe, to heed this appeal and send contributions of goods or supplies or money to the War Relief Clearing House at the New York address given? Every donor, however small or great may be his gift, whether it be of goods or of money, will have the satisfaction of knowing that he has helped to ease the sufferings and the sorrows of some afflicted soul in France.

A CENTENNIAL CELEBRATION FOR FLORIDA PROPOSED.

A VERY proper suggestion has been made that Florida should celebrate the centennial of her Americanship. February 22, 1819, Florida was ceded to the United States by Spain. Florida newspapers are urging that arrangements should be started at once for a gigantic celebration of the centennial in 1919. An exposition is suggested in some quarters as the best means for attracting a crowd and providing an object-lesson, showing the Florida of the past and the present.

An exceedingly interesting exposition could be designed and carried out, one that would portray the romantic past of the State and that would impress the visitor with the wide variety of opportunities and attractions which the State today presents to seekers of homes, where conditions are of attractive variety and form, and where the developments of the future are certain to be extensive and great. Care should be taken, however, that an exposition within reasonable means should be undertaken. It would be a great mistake to plan on a scale so elaborate that the project could not easily be carried out. Properly designed and wisely executed, the plan should appeal to all the people of Florida and should receive the endorsement of the public at large.

THE MIRACLE THAT CHARACTER HAS WROUGHT.

THE News and Observer of Raleigh will rebuild. Meanwhile the paper will be printed in a neighboring office. There was no interruption in the publication of the paper, and there has been no doubt that a new and better office of its own would be constructed for Mr. Daniels' newspaper.

Here is a situation which very naturally suggests reflection and comment. Never a man of wealth, and having suffered a similar loss by fire within the past three years, there has yet been no thought that Josephus Daniels would fail to build another plant, bigger and better than the ones destroyed. Herein is a miracle that character has wrought. Many people on many occasions have found themselves squarely opposed to political and other views expressed by Mr. Daniels in his newspaper. There never has been, however, a question in anybody's mind as to the integrity of his character. Here is an illustration of the sentiment so clearly and somewhat startlingly stated by the late J. Pierpont Morgan when he declared to a Congressional committee in Washington: "Character is the foundation of all credit. There are some men I would loan a million dollars to on their mere note, while others could not get a million dollars from me with Government bonds as a security."

CHARLESTON INAUGURATES AN EXPORT COAL TRADE.

A SHIPMENT of 2800 tons of coal from Charleston, S. C., to Havana, Cuba, inaugurates a new era in the trade history of Charleston, this having been the first cargo of coal loaded at the new coal pier of the Southern Railway for shipment to a foreign port. The shipment was made in the "International," the first vessel to fly the flag of the Clinchfield Navigation Company. The "Clinchfield," a sister boat to the "International," also in the service of the Clinchfield Navigation Company, is to take a second cargo of coal to Cuba late in November. Contracts call for the shipment of 17,500 tons of coal to Cuba by the Clinchfield Company. Rapid shipment of these cargoes will break all records for the exporting of coal from Charleston. It is the expectation that these shipments mark the beginning of a very important export trade from Charleston.

Rising Cost of Battleships

An Object-Lesson to Congress

READJUSTMENT OF IRON AND STEEL INDUSTRY AN IMPERATIVE NEED
TO INSURE NATIONAL PREPAREDNESS—OVERSOLD CONDITION
OF STEEL TRADE CALLS FOR NEW PLANTS IN SOUTH
AND EARLY DEVELOPMENT OF ADDITIONAL
PIG-IRON CAPACITY.

[Special Correspondence Manufacturers Record.]

New York, November 23.

The most important of last week's surprising developments in finance and trade was the discovery that the United States Government may be delayed for half a year or more in laying down its two projected dreadnaughts, Nos. 43 and 44.

Because of the unparalleled rush of steel consumers, both foreign and domestic, to specify against their contracts for early delivery, the leisurely-moving Government finds itself blocked and progress halted by the great increase in the price of steel products and the consequent scarcity of supply.

A year ago, when Congress fixed the upset price of the two battleships in question at \$7,800,000 each for hull and machinery complete, the iron and steel industry of the nation languished. Prices of all products were low, and nearly 50 per cent. blast furnace and mill capacity was idle.

The industry was in its pauper stage, and contracts from the Government at that time would have been eagerly welcomed. The price of iron and steel and labor—everything that enters into the construction of a modern ship of war—was low. Construction could have then gone forward at high speed.

But the Government sat still for a year. And with its awakening to the necessity for action comes a shock. It finds that pauper steel of a year ago has again donned the purple vestments and the limousine habit, and is placarding its mill walls with the sign—"Steel Capacity Sold for Six Months Ahead."

Price for iron and finished steel have advanced so rapidly within three months that not one private shipbuilding company was able to bid within the limit fixed by Congress for the construction of the battleships. And of the three Government shipbuilding yards from which estimates of cost were secured, not one is properly equipped to do the work, either in the time required or for the flat figures demanded in the bid.

Thus at the time when Congress will be grappling with the great questions brought forward by the war in Europe the Navy Department must ask specifically for an increase in the cost price of these two vessels, or for an appropriation large enough to enhance facilities at Government yards.

In the opinion of iron and steel men here, the suggestions that Congress may put an embargo on export steel, may authorize Government control of warship construction from the raw material to the assembling of the finished product, or in any way try to cope with the situation other than through the usual channels of demand and supply are hardly feasible.

The rising cost of battleships, they point out, is one of the most forceful arguments in favor of a nation-wide co-operative movement to develop the iron and steel industry of the South. More iron furnaces and finishing mills in a section where raw materials are abundant are needed rather than an embargo on steel to foreign nations.

The steel situation nationally is one of absorbing interest. The steel market is in a runaway. Producers and consumers alike are in a quandary. So far ahead of productive capacity run the orders that price limits cannot be foretold.

Steel orders for rush delivery have been booked far into the new year. An unprecedented foreign tonnage is specified against, and through the quick response of domestic trade to the world endeavor to get iron and steel there exists today a situation without parallel.

The railroads, long poverty-stricken and looked at askance at banking headquarters when loans for new equipment were needed, are finding it easier to finance now. Because of their enforced economies when times were bad they are now ordering prodigally. Their appetite for locomotives, freight cars, steel rails, structural steel and lighter equipment material is com-

parable to a hungry man ordering a Thanksgiving feast regardless of cost.

Just at the time when the basic steel industry is swamped with orders and its degree of expansion apparently limited only to the amount it can turn out, the Government finds that it needs iron and steel in quantity—and cannot get it without paying a high price and waiting a long time.

Steel mills running to capacity are taking obligations on specific contracts. A large percentage of total mill obligations—perhaps 70 per cent.—are in the form of special orders, which are not subject to cancellation or postponement of shipment.

All this the Government has found out in its bids for new warships. Because of the phenomenal boom in steel since Congress said \$7,800,000 was enough to pay for a battleship, the cost of material and labor has increased, the capacity of the mills has been reached and passed in orders and everywhere efforts are undertaken to increase the output.

But the Government has also learned other facts. The most important of all is that, despite all efforts, the country's production of iron and steel in December, January and February next will not be greater—it may not be as great—as was the production in September, October and November.

The chief reason for this is climate. Because the iron and steel industry has the bulk of its plants concentrated in the zone most affected by zero weather, its output is largely reduced during the winter months. Another important reason is that, due to the economic mistake of depending upon the Lake Superior ore district for 90 per cent. of their ore supply, the production of the steel mills in winter is limited by the size of the ore piles at lower lake ports when the season of navigation on the Great Lakes ends.

No better argument could be brought forward, say steel authorities, to promote the co-ordination of iron and steel industries as advocated by the MANUFACTURERS RECORD than this. Were the iron and steel industries of the South fully developed now the furnaces and mills could run at record capacity throughout the coming winter. There would be no delay because of zero temperature and no slackening of speed due to shortage in ore and other raw material. And the line of waiting, impatient customers would not be so long.

Prices of iron and steel are not the foremost factors in the present scramble among consumers. The only thing of present moment is the time when shipments can be made or finished products supplied.

Yet prices have gone up steadily. A year ago No. 2 pig, at furnace Chicago, was selling for \$12.50 per ton. Today it is quoted at \$17.50 a ton, an advance of \$5. Tomorrow it may be higher. No. 2 Birmingham has advanced nearly 40 per cent., and it is predicted that it will go much higher. Basic Valley and Bessemer pig have had corresponding advances, and everywhere production of pig-iron is at the known national maximum.

Bessemer billets, Pittsburgh, now selling at \$27 per ton, have advanced \$9 a ton since November 20, 1914, while forging billets, base Pittsburgh, selling at \$48 per ton, have exactly doubled in price within the year. Open-hearth billets, Philadelphia, quoted at \$34 a ton, are up 60 per cent.; wire rods, Pittsburgh, have risen over 50 per cent., and are now quoted at \$37 a ton.

Finished iron and steel, iron bars, Pittsburgh, Philadelphia and Chicago; steel bars and tank plates, Pittsburgh, show great advances. Sheets, black and galvanized, and wire nails, barbed wire, etc., have been soaring upward because of the aggressive buying and the current rush from all over the world for the output of the mills of the United States.

Next Monday the National City Bank will receive for deposit to the credit of the Anglo-French Loan Com-

mission \$144,000,000. This will be in response to the second call for a payment of 30 per cent. of the amount held by depositories. The first call for 15 per cent. brought cash to the amount of \$72,000,000, which has been paid out for commodities and munitions of war.

Because of this large payment, the deposits of the National City Bank will probably cross \$575,000,000, and may reach \$600,000,000.

If the latter figure is attained it will be \$62,000,000 more than its current record deposit of \$538,000,000 and will be the greatest amount thus held by an American banking institution. Only five other banks in the world, including the Bank of England, equal the National City in the colossal size of their deposits.

Coosa-Alabama River Improvements Strongly Endorsed.

Gadsden, Ala., November 20—[Special].—At the most important meeting ever held in behalf of Coosa-Alabama River improvements, the convention in session in this city yesterday passed resolutions strongly favoring the opening to navigation of the Coosa-Alabama River from Rome, Ga., to Mobile. One of the resolutions urged Senators and Congressmen from Georgia and Alabama to do everything that is proper and legitimate to secure the passage of general or special laws by which the Government, alone or by co-operation with private companies or individuals who wish to develop water-powers, may hasten to completion the work of making the Coosa-Alabama River and other rivers of the section ready for navigation. Congressman W. E. Adamson of Georgia strongly supported the resolutions and spoke in favor of a general bill that will permit the speedy development of the water-powers of the South. Congressman John L. Burnett of Alabama gave an interesting review of the long fight for the development of power and navigation on the Coosa-Alabama River.

After the adoption of the resolution an illustrated lecture showing views of the river was given by Capt. W. P. Lay of Gadsden. Between the morning and evening sessions the delegates were taken through the plant of the Gulf States Steel Co. of Gadsden, operated by water-power from the Lock 12 development on the Coosa River. The magnitude of the plant, demonstrating the possibilities of modern hydro-electric power, created a deep impression.

At a banquet last night at the Printup Hotel, Congressman John L. Burnett was toastmaster, and addresses were delivered by Senator John H. Bankhead of Alabama, Senator Thos. W. Hardwick of Georgia, Congressman J. Thos. Heflin, S. H. Dent, John W. Abercrombie and E. B. Almon of Alabama; also Judge Moses Wright of Rome, Ga.; Ray Rushton of Montgomery, John Craft of Mobile and Bruce Kennedy of Montgomery. Attending the convention were delegates from Rome, Ga.; Mobile, Montgomery, Birmingham, Selma, Tuscaloosa, Florence, Tuscumbia, Fort Payne, Wetumpka, Jasper, Attalla, Talladega, Boaz, Ashville, Alabama City, Ragland, Cullman, Albertville, Center and Oneonta, Ala.

Increasing Interest in Welfare Work South.

The growth of interest in welfare work in the South is indicated in a meeting recently held in Laurel, Miss., when owners of Southern pine mills, ministers, Y. M. C. A. secretaries, doctors and others identified with social welfare work came together to hold a Lumbermen's Welfare Conference. Addresses were made on sanitation and diseases; advantage of welfare work to the lumber industry; successful methods and results of safety work; welfare progress in American industry; public schools and the lumber workers; the doctor and welfare work; the employer and the man.

The advisory committee who promoted the conference consisted of J. Lewis Thompson, Houston, Tex.; R. A. Long, Kansas City, Mo.; J. B. White, Kansas City, Mo.; S. H. Fullerton, East St. Louis, Ill.; S. J. Carpenter, New York, N. Y.; J. A. Freeman, Pasadena, Cal.; Geo. K. Smith, Clayton, Mo.; J. L. Kaul, Birmingham, Ala.; A. Trieschmann, Crossett, Ark.; J. E. Rhodes, New Orleans, La.

Industrial France To Be Modernized

AMERICAN AUTOMATIC MACHINERY TO LARGELY SUPPLANT HAND OPERATIONS—SIGNIFICANCE OF FRENCH COMMISSION'S VISIT TO THIS COUNTRY.

[Special Correspondence Manufacturers Record.]

New York, November 22.

The American Manufacturers' Export Association at its recent luncheon given to the members of the French Industrial Commission heard a presentation of France's determination to modernize its industrial life following the coming of peace that was inspiring and stimulating.

Headed by M. Maurice Damour, former Consul-General at New Orleans, now Secretary of the French Deputies Commission on Appropriations, France has sent to the United States nine acknowledged authorities in different branches of its national industries, finance and trade. They are here seeking to learn American methods of manufacturing that will enable them to modernize industrial conditions in Northern and Southern France and to meet the new problems caused by war.

Foreseeing the inevitable scarcity of men and horses for labor and motive power, due to the losses in war, imbued with the spirit of the people of France to rehabilitate as speedily as possible its devastated regions the members of the Commission are seeking at first hand the knowledge that will enable them to meet the new issue.

They want machinery to supply the loss of skilled artisans. They want in their modernization of the national industries to put agriculture, manufacture and production in every line upon the most modern plane.

Heretofore there has not been a lack of human hands to guide the shuttles or to till the soil, or to convey from one part of a factory to another the various units assembled for the completed product. It has not been actually necessary to have elevators, power conveyors and labor-saving devices in many branches of either trade, agriculture or art.

Prior to the German violation of Belgian neutrality and the dash of German troops toward Paris, it was possible in France for the artist in any line to give sole attention to the standard of his work. If it required three months, six months, a year, or even longer, for the weaver to complete his tapestry or the potter to produce his work of art, it made little difference. The cardinal point of view was that, when completed, it should be perfect.

But the war has so changed world conditions that already France knows it must enter the business field after the war on broader lines. It is not to depart from its standards of art, but it is to use in a modern way every modern appliance for cheapening the cost of production, manufacturing new lines and increasing the output.

Wherever possible machinery must take the place of hands and horses. The new industrial and agricultural France intends to contest in the open market for every business prize.

In presenting these broad national plans the Commission sent by France has offered American manufacturers a golden prize of vast potentialities. To enable France to produce its specialties in more economic fashion; to introduce new industries and modern practices, installations of new equipment must be made on such an enormous scale that ultimately billions of dollars will be spent. It is estimated that within the first three years following the end of the war France must spend at least \$1,000,000,000 for installations of the latest types of machinery and labor-saving devices. This will be followed necessarily for an indefinite number of years by annual expenditures for additions and repairs aggregating hundreds of millions of dollars.

Speaking for the Commission, which he heads, M. Damour makes it clear that France looks to America for aid. On this point the chairman says:

"America is the logical field for us to look to for help. The United States has brought manufacturing, and to a degree agriculture, to a point in this country that has not been dreamed of in mine.

"We want American machines, and we want your interest in their performance under new conditions.

This Commission is not planning to buy machines at this time, but our work will result in the purchase of machinery in great quantities.

"Before the war we purchased annually about \$160,000,000 worth of machinery. All of this important trade will be turned over to America when hostilities cease, we hope. The sum should be considerably larger, for complete equipment will have to be put in throughout the devastated districts.

"As our plans contemplate an industrial revolution for the whole of France, it is easy to see what enormous installation is involved. We will use the war-stricken section in the north of France, now in the hands of the enemy, to accomplish its reorganization and later that of the southern half.

"In return for the purchase of machinery in this country, we hope and expect an American market—perhaps a preferential market—for French goods made through the help of these machines. We do not contemplate competing with the United States in its own established lines of industry. But there are dozens of kinds of manufactured articles which this country does not make on a large scale now, but imports from Germany. This German competition, we believe, we will be able to undersell. We hope that, at equal prices, we would get the benefit of American markets."

The spirit of the Commission representing France is that which undoubtedly will dominate all Europe at the close of the war. Economic reconstruction of nations will be necessary. France is taking the field early. The thoroughness with which it is starting upon this stupendous campaign is displayed in the businesslike method of the Commission. It is seeking knowledge of American manufacturing methods that it may later acquire through colossal expenditures American-made automatic and labor-saving machinery, so that the industrial reconstruction of France may give it victory over Germany in the world's competitive markets.

The Commission intends visiting many of the industrial centers of the country. It is assured of the cordial aid of the various departments of Government at Washington—Agriculture, Commerce, Labor, Treasury, etc. Its members will investigate in Pittsburgh, Cleveland, Chicago, New York, Boston, Philadelphia, probably Baltimore and other cities, the relation of labor to machinery so that they may take back to France with them exhaustive information on all points.

The importance of their present mission to the proposed new industrial France and its prospective bearing upon future business relations with the manufacturers of the United States have been made clear to the leading representatives here. Efforts are being made to bring about a mutual understanding which may result in American manufacturers adding to their future engagements the task of building machinery to inaugurate a peaceful trade revolution on the present battlefields of Europe.

M. Damour's associates on the Commission include Joseph Guinet of the Chamber of Commerce, Lyons; M. Saladin, engineer Creusot Arms Works; E. D. Thiriez, secretary of the Syndicate of Spinners; L. Vibien, director National Bank of Credit; M. Chouffour and Jacques de Neuffiez, bankers; Jacques Lesueur, agricultural engineer, representing Minister of Agriculture, and L. Trincano, director National School Clock-making, Bresancon. Each member of the Commission is an expert in his field, and already American manufacturers have discovered that the combined membership speaks with authority and clarity of vision upon the program they are presenting. A manufacturer who has been in conference with all members of the Commission since their arrival supplements the careful utterances of the chairman in this way:

"The campaign France has undertaken through this Commission is the greatest in which we Americans have ever been invited to take part. It is wholly business in its final analysis, yet there is a sentimental side to it. The French are preparing to rebuild and re-equip industrial centers ruined by war, in which were

located over 60 per cent. of their manufacturing and metallurgic outturn.

"Prior to the war France had bought from Germany, over a series of years, machinery exceeding perhaps \$1,000,000,000 in value, and was spending annually in Germany over \$150,000,000. Most of the installations were in that section of Northern France which has been in possession of Germany for more than a year. Today that entire district is swept as clean of machinery as a kitchen floor. Whatever was not totally destroyed by gun fire has been loaded aboard trains and shipped back to Germany.

"Thus France undertakes to rebuild, re-equip and put upon a modern basis its manufacturing industry, and in turn modernize its agricultural methods. Through the Commission it indirectly asks us this hypothetical question:

"If a nation that had without provocation killed your fellow-citizens in the free waters of the seas; that had carried on a system of diplomatic disregard of your rights as a neutral nation; that had spent millions of dollars to wreck your business establishments and prevent them doing legal business with other nations, were to offer you manufactured goods that you wanted, and if another nation that had not done any of these things; that purposed to buy from you products of your own factories and mills and steel plants—many millions of dollars' worth—and also should offer to sell you at a price no higher, perhaps lower, goods of the same quality as those of the other nation, where would you place your business?"

"The answer should be easy. American manufacturers, it seems to me, could well afford to discuss preferential trade terms with France along these lines."

France seeks to divert from Germany to this country after the war all its trade in machinery. It seeks a market here for articles we now purchase from Germany which heretofore France has not made in quantity, if at all. It is seeking no raw materials here, because its own supplies and those of nearer business friends are expected to prove ample. It will depend, as developments extend, upon England, Belgium, Luxemburg and the Lorraines for most of its iron and steel. Between France and Belgium after the war it is expected that there will be no business frontier lines and no customs duties. The Lorraines will be all French or all German, and Luxemburg, with its important metallurgic interests, will disappear as an independent factor.

Huntsville's Third Cotton Mill Y. M. C. A.

A new cotton mill Y. M. C. A., costing \$25,000, one of the most completely appointed plants of its kind in the South, has been opened at West Huntsville, Ala. This is the third cotton mill Y. M. C. A. in the Huntsville community, associations having been organized at the Abingdon Cotton Mill and Dallas Manufacturing Co. a year ago. This latest addition will serve the people connected with the Huntsville Knitting Co., West Huntsville Cotton Mills, Lowe Manufacturing Co. and other industries in that community.

In addition to the well equipped men's department, there is a department for women and girls, which consists of a clubroom, domestic science rooms, kindergarten, visiting nurses' headquarters and operating room, dressing-room and shower baths. The gymnasium and classrooms are used in common with the men.

The building is located on a lot 400x150 ft., affording ample space for an eighth-mile running track, jumping and pole vaulting pits, volley ball and basket ball and tennis courts and an assortment of playground apparatus.

Hardwood Manufacturers' Association to Meet at Cincinnati.

Announcement is made that the fourteenth annual meeting of the Hardwood Manufacturers' Association of the United States will occur at Cincinnati January 18 and 19, with headquarters at Hotel Gibson. This is the sixth annual meeting to be held at Cincinnati, which, located midway between the Southern and Southwestern producing territory and the Northern and Eastern consuming markets, is equally convenient for both the manufacturer and his customer. The program, while not yet completed, promises to be one of interest and value to all lumbermen and to business men generally.

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A Review of the American Cotton Industry

A bulletin soon to be issued by Director Sam. L. Rogers of the Bureau of the Census, Department of Commerce, and prepared under the supervision of Mr. William M. Stewart, chief statistician in charge of the inquiry, will show, for the American crop of 1914, a production of 15,905,840 running bales of cotton, counting round as half bales (equivalent to 16,134,930 bales of 500 pounds each, gross weight), worth \$591,130,000, and of 7,186,000 tons of cotton seed, worth \$128,950,000; and for the "cotton year" ended July 31, 1915, a consumption of 5,597,362 bales (exclusive of linters), exports of 8,322,688 bales, net imports of 363,595 bales, a supply on hand at the beginning of the year of 1,365,864 bales, and at the end of the year of 3,936,104 bales, and cotton spindles active at some time during the year to the number of 31,964,235. The production of linters from the crop of 1914 was 832,401 running bales; the quantity consumed during the year, 411,845 bales; and the quantity exported, 221,875 bales. For the entire world the production of lint cotton destined for factory use was 24,764,000 and the mill consumption 19,761,000 net 500-pound bales. The production both in the United States and in the world was the greatest in the history of the industry.

Texas alone produced 4,592,112 equivalent 500-pound bales, or more than one-fourth of the total American crop of 1914; while seven States—Texas, Georgia, Alabama, South Carolina, Oklahoma, Mississippi and Arkansas, each with an output of more than 1,000,000 bales—together produced seven-eighths of the crop.

The closer delinting of cotton seed is strikingly shown by the figures for linter production. Between 1899 and 1914 the output of this product increased from 114,544 bales to 856,900 bales, or by nearly 650 per cent. Many mills now obtain over 100 pounds of linters per ton of seed treated, or more than double the yield of a few years ago.

During the three-quarters of a century from 1839 to 1914 the production of cotton in the United States increased from 2,063,915 to 15,905,840 running bales, or by 671 per cent. The greatest increase, both absolutely and proportionally, shown by any State is that for Texas, whose production in 1914, 4,390,200 running bales, was nearly 75 times as great as its crop of 1849 (the earliest year for which census statistics for that State are available), which was 58,072 bales.

Average Prices.

The average price obtained by the growers for the 1914 cotton crop was 7.33 cents per pound—more than 6½ cents less than in 1910 and more than 5 cents less than in 1913. The averages for the last five crops were: 1910, 13.95 cents; 1911, 9.56 cents; 1912, 11.48 cents; 1913, 12.48 cents, and 1914, 7.33 cents. The average price obtained by the growers for cotton seed from the crop of 1914 was \$17.90 per ton—nearly \$8 less than in 1910 and \$4.50 less than in 1913. The prices for the five crops were: 1910, \$25.80; 1911, \$17.10; 1912, \$19.20; 1913, \$22.40, and 1914, \$17.90.

Although the crop of 1914 was the largest ever grown, exceeding that of the preceding year by nearly 2,000,000 bales, its total value—cotton and cotton seed combined—was estimated at only \$720,080,000, equal to about seven-tenths of the value of the 1913 crop, which was over a billion dollars. About 18 per cent. of the total value of the 1914 crop was contributed by cotton seed.

Capacity of Ginneries and Kind of Power Used.

There were 24,547 active and 2792 idle cotton ginneries in the United States in 1914, and the average number of bales ginned by each active establishment was 648. In the ginning industry, as in most others, large modern plants are displacing the small and poorly equipped ones. During the nine-year period from 1906 to 1914, inclusive, the number of active ginneries operating saw gins decreased from 28,486 to 24,418, but this decrease was accompanied by an increase from 54,553 to 61,181 in number of gins or stands, an increase from 3,597,400 to 4,193,556 in number of saws, and an increase from 126 to 172 in average number of saws per ginnery.

Although steam is being displaced to some extent by gasoline and electricity, it is still the predominant

source of power used in the ginning industry. During the period from 1906 to 1914, inclusive, the number of gins or stands operated by steam increased from 51,173 to 55,309, although the number of establishments using this form of power decreased from 25,692 to 21,045. During the same period the number of gins operated by gasoline increased from 552 to 2978 and the number operated by electricity increased from 152 to 1398. Meanwhile the use of water and animal power has been decreasing steadily.

Consumption, Exports and Imports.

At the beginning of the cotton year which ended July 31, 1915, the supply of cotton and linters on hand in the United States was 1,577,448 running bales (counting round as half bales), of which amount 989,980 bales were held in consuming establishments; and during the year the ginnings were 16,738,241 running bales and the net imports were 363,595 equivalent 500-pound bales. During the year the American mill consumption of cotton and linters amounted to 6,009,207 bales and the exports to 8,544,563 bales; and there remained on hand at the end of the year a total of 4,364,890 bales.

The amount consumed by American mills was greater than in any preceding year, but the exports fell off somewhat in quantity and very much in value as compared with 1914. The value of cotton and linters exported during the fiscal year ended June 30, 1915, was \$376,217,972, whereas in the preceding year the value of such exports had amounted to \$610,475,301. Exports to Great Britain and Ireland increased from 3,581,501 bales of 500 pounds each during the fiscal year 1914 to 3,919,749 bales in 1915; to Italy, from 537,357 to 1,127,400 bales; to Holland, from 35,053 to 544,035; to Spain, from 297,339 to 464,504; to Japan, from 353,440 to 428,806; and to Canada, from 159,993 to 182,790. On the other hand, the exports to Germany dropped from 2,884,324 to 294,194; to France, from 1,139,399 to 692,699; to Belgium, from 227,474 to 5057; to Austria-Hungary, from 106,511 to 455; and to Russia, from 99,076 to 82,125. Exports to European countries other than those just named increased during the year from 63,725 to 898,096 bales.

The small amount of cotton imported into this country is principally Egyptian, which is used for mercerizing and in the manufacture of thread, knit goods and lace.

Cotton Manufacturing.

During the three-quarter-century period from 1840 to 1915 the consumption of cotton in the United States increased from 236,525 to 6,009,207 bales, or about twenty-fivefold. The greatest cotton manufacturing State is Massachusetts, which consumed 1,282,937 bales during the year; North Carolina, with a consumption of 910,154 bales, stood second; South Carolina, with 811,564 bales, third, and Georgia, with 659,853 bales, fourth.

The manufacture of cotton in the South had been carried on for many years, but only in a small way prior to the decade 1870-1880, when the industry in that section began to grow rapidly. During that decade and in each of the two succeeding ones the consumption of cotton in these States nearly trebled, and during the past 15 years it has more than doubled. During the quarter century from 1890 to 1915 the consumption in the cotton-growing States increased by nearly 500 per cent., while the increase in the New England States was only 46 per cent. and that in the United States as a whole was less than 140 per cent. Since 1912 the annual consumption in the cotton-growing States has amounted to more than one-half of the total for the United States, and in 1915 these States consumed 3,026,969 bales (exclusive of linters), compared with 2,570,393 bales manufactured in all other States. During the five-year period 1911-1915 the consumption in Georgia increased by 38.9 per cent., in South Carolina by 32.1 per cent., and in North Carolina by 31.4 per cent. The greatest actual increase was that reported for North Carolina, 217,695 bales.

The Cotton Industry in Foreign Countries.

Although the bulk of the world's cotton crop is produced in the United States, a considerable quantity is grown in other parts of the world. In all, about

9,300,000 bales of cotton destined for mill consumption were raised in India, Egypt, China, Russia and other countries. The production in the four countries named amounted to over 8,000,000 bales, or about seven-eighths of the total production outside of the United States. The production of commercial cotton of India alone in 1914 is estimated at 3,826,000 bales. Other countries producing more than 100,000 bales in 1914 were Brazil, Persia, Mexico, Turkey and Peru, in the order in which named, and about 325,000 bales were produced in still other countries.

The increase in the use of cotton throughout the world during the past century is strikingly shown by a comparison of the figures for 1811 with those for the cotton year 1913-14, the latest in which normal conditions have prevailed in the industry. In the earlier year the world's production was estimated at about 1,100,000 bales, whereas in the latter the total consumption by cotton mills was more than 21,000,000 bales. In the past 15 years alone the increase has been about 40 per cent.

Exhibit of Maryland's Farm Products an Example for Other States.

Baltimore, in celebrating Maryland Week, by having an exhibit of farm products, showing the great and varied agricultural possibilities of the State, has inaugurated an institution that might well be copied by every large city in the South. During the day sessions the spacious Fifth Regiment Armory, where the products were displayed, was filled with visitors, most of them farmers, who went there seeking information regarding modern methods of fertilization, cultivation and handling of crops, dairying, etc., while in the evening the attendance was largely of people from the city.

The big flower show was a center of attraction both day and night. Particular interest was taken in this division by Baltimoreans, several of whom won first prizes for different varieties of roses, chrysanthemums, etc., they had entered. The great display of apples, with their size and their quality, was to many a surprising demonstration that Maryland is taking a leading place in this industry.

There were special exhibits of farm products and vegetables, such as those of the Crownsville Farmers' Club, Federalsburg, Cambridge and other displays that illustrated the diversification of Maryland's crops. By the variety and extent of the grain exhibit, Baltimoreans were made aware of the fact that Maryland can raise prize-winning corn equally as well as the Middle Western States. Amateur gardeners and school children of the city and suburbs and boys' corn clubs of the State were represented, as were the home economic department of the city and counties, with their displays of preserves, pickles and canned products.

In the dairying section demonstrations were given of modern methods of milking by machinery and of scientific housing and caring for the cattle.

Around the main exhibits were booths where farm machinery and accessories were shown, from cream separators to automobiles. Several of the booths were occupied by fertilizer and agricultural lime manufacturers. A prominent place was given in the main show to an exhibit showing the extent of Maryland's shell-fish industry.

Both day and night lectures and addresses were delivered in the auditorium of the Armory by prominent agriculturists, educators and others that were exceedingly interesting and valuable to the city man as well as to the farmer. From every standpoint, educationally, in attendance and interest aroused, Maryland Week was a distinct success.

Texas' Quicksilver Production.

A report from Alpine, Tex., says that the high price of quicksilver is stimulating development of cinnabar mines in the vicinity of Terlingua, in the southwestern part of Brewster county, near the Rio Grande. The Chisos Mining Co., with its mines and furnaces, is turning out considerable of the metal, and the Study Butte Mining Co. is producing large quantities of ore. Operations are also being conducted at the Boquillas mines on the Mexican side of the Rio Grande opposite Boquillas, Tex., the ore from them being hauled to Marathon to be shipped to the smelters.

Manufacture of Peanut Oil

Arousing Widespread Interest

MANY INQUIRIES RECEIVED BY MANUFACTURERS RECORD—AVAILABLE INFORMATION AS TO THE INFANT INDUSTRY.

Interest in peanut oil production is increasing in this country, as evidenced by the many requests continuously coming to the MANUFACTURERS RECORD for information as to machinery for making the oil, markets for oil, etc. It appears that the peanut oil industry is so new in this country that full information is not to be had in printed form. A request sent by the MANUFACTURERS RECORD to the United States Department of Agriculture for reports on peanut oil brought the statement from Mr. H. C. Thompson, horticulturist of the department, that reports are yet to be prepared.

A letter written by Mr. Thompson contains all the information at hand.

"We hope to prepare a bulletin on the subject in the very near future," Mr. Thompson says, "because of the large number of inquiries we get from various sections of the country for more complete information on the subject of manufacturing peanut oil. As peanut oil is not made to any large extent in this country, there is very little first-hand information on the commercial production of this product, except that secured from abroad. The information we have at hand has been secured mainly from experimental work and from publications giving the method of manufacture in Europe."

The letter follows:

"In order to supply the demand for information relative to the manufacture of peanut oil, the following has been compiled:

"Peanut oil is produced in large quantities by mills located at Marseilles, Hamburg and other European cities from peanuts that are grown in Africa. This oil is used largely in European countries as a cooking and table oil, also in the manufacture of butter substitutes. The process of the manufacture of this oil is about as follows:

"1. The Cleaning of the Pods.—As the peanuts come to the factory they contain considerable dirt, which is most economically removed before shelling. This is done by passing them through a wire-covered reel and then over a fan or a suction blast duster.

"2. Shelling.—The peanuts are then shelled and after the separation of the shells from the meats by a fan the meats are passed over picking tables, where any remaining trash or decayed nuts are removed by hand.

"3. Blanching.—In the manufacture of the finest grades of oil the nuts are 'blanched,' which consists in the removal of the red skins and the germs.

"4. First Pressing.—The meats are first ground to a fine meal, then are filled into large press-sacks, placed in a closed or basket type press and subjected to a comparatively low pressure without heating. The oil resulting from the first pressing is known as first grade, and varies from 24 to 30 per cent. of the entire weight of the clean meats.

"5. Second Pressing.—The cake is reground, 1 to 5 per cent. of cold water is added, and it is given a second pressing in the regular hydraulic presses. This pressing yields 8 to 9 per cent. of oil.

"6. Third Pressing.—The third pressing is similar to the second, except that the meal is heated to not over 48 degrees centigrade (118 degrees Fahrenheit). This pressing yields 5 to 7 per cent. of soapmakers' oil. Sometimes both the second and third pressings are heated.

"With our improved American presses it would probably not be necessary to make more than two pressings, the first, or cold process, by which there would be obtained 28 to 30 per cent. of the total weight of the meats, and the second, or hot pressing, which would give from 12 to 15 per cent. Southern-grown Spanish peanuts will, as a rule, clean about 70 per cent. of the gross weight, or 1400 pounds to the ton of farmer's stock; in other words, 21 pounds to the 30-pound bushel. These meats generally contain about 52 per cent. of oil, of which our mills are capable of extracting 42 to 44 per cent. after making due allowance for loss of moisture and other waste.

"To adapt the regular cottonseed oil mill to the expression of peanut oil it will be necessary to add shelling and cleaning machinery, or adapt the regular cottonseed equipment for this purpose. For the manufacture of oil

it may not be necessary to clean the meats so carefully as where peanuts are shelled and cleaned for the market. However, where the highest grade oil is made in the European mills the nuts are thoroughly cleaned and blanched.

"It is probable that the regular cotton-seed hullers may be adapted to the shelling of peanuts, also that the separators and graders now used for cotton seed may be adapted for cleaning the peanuts. In order to adapt a cotton-seed huller to the work of shelling peanuts it will be necessary to give greater clearance to prevent breaking the peas, also to run the machine at about one-fourth the speed used for cotton seed. The separation of the hulls from the meats can be accomplished either by direct blast from a fan or by means of a suction blast. In the regular shellers the hulls and chaff are separated from the meats by suction just as they fall from the sheller. This could be accomplished in the same manner as they come from the cotton-seed huller.

"For oil purposes it will not be necessary to separate the whole from the broken kernels; however, this is easily done by passing them over a perforated metal shaker having three sizes of opening. The perforations should be 15/64 round holes for removing the germs and small particles of broken meats, 7/32 by 3/4 for removing the splits, and a 25/64 round perforations for separating the unbroken or No. 1 peas from any pods that have passed through the huller.

"In order to get the peanut kernels entirely free from trash it is necessary to hand pick them. This is accomplished by passing them over a 'picking table' alongside of which are seated a number of women who pick out foreign matter as the peanuts are carried upon a slowly moving belt. The cost of this hand picking should not exceed \$1 per ton of farmer's stock.

"The grinding of the meats can be done on the rolls, although considerable difficulty is experienced to get them to feed regularly. An attrition cake mill may also be used for grinding the meats, running the burrs opposite and at a speed of 1600 to 1800 each. In grinding peanuts for oil expression it is essential that the particles be rubbed hard in order to break the oil cells.

"A continuous working machine, such as the Anderson Expeller, might be used to advantage for the first expression. In this case it would not be necessary to grind the meats until after the first pressing.

"The oil should be filtered immediately after expression, and this can be handled by the regular cotton-seed oil filters, although an improved process is desirable. It is probable that a centrifugal process will prove the most satisfactory for this work.

"Our experiments have shown that a ton of southern-grown Spanish will yield about 600 pounds of hulls and dirt, 400 pounds of first grade oil, 200 pounds of second grade oil, 780 pounds of cake, 20 pounds of loss or waste.

"The above may be of interest to you, but I trust that in the near future we may have a publication giving more complete information regarding the manufacture of peanut oil. The present market indications are that a considerable quantity of first-grade peanut oil can be disposed of at prices ranging from 75 to 85 cents a gallon wholesale, and large quantities of second-grade oil at 35 to 40 cents a gallon for soapmaking.

"It will be impossible, however, to establish the peanut oil industry in the United States until there is a much larger production of peanuts. At present the farmers are finding the growing of peanuts profitable from a hog and general stock feeding standpoint, and a little encouragement on the part of the managers of oil mills is necessary in order to secure a supply for oil purposes."

Henry H. Archer, secretary of the Parkersburg Board of Commerce, was elected to the secretaryship of the West Virginia State Board of Trade at a meeting held the latter part of October, and the office of the secretary of the State Board was transferred to Parkersburg, W. Va. C. C. Lewis, Charleston, W. Va., is president.

"DYEING" COTTON IN THE BOLL.

Efforts of a South Carolina Experimenter to Grow Colored Cotton.

Columbia, S. C., November 22.—[Special].—In the future it may be possible to produce cotton in all the shades of the spectrum. At least that is the proposition on which Arthur W. Brabham of Bamberg county, South Carolina, is engaged. Should he succeed—and he has made considerable progress—textile manufacturers would not be perturbed by the scarcity of aniline dyestuffs, just now an embarrassing problem, incident to the blockade of German and allied arteries of trade.

The chief objective with Mr. Brabham is to produce black cotton. A distinctly bronzed tint has been realized by six years of systematic cross-fertilization of the Egyptian brown with the Russell big boll, a variety common to South Carolina plantations. Continuation of this plan, the Bamberg county plant breeder is confident, will bring the hybrid black, which he regards as the missing link in the basic colors of his cotton scheme.

Mr. Brabham pointed out when visited a few days ago what is not generally known, that already four distinct tints of cotton are being grown in different parts of the world. In confirmation of his argument he drew from his sample case yellow Chinese cotton, grown from seed imported from the Far East. Flanking the fence parallel with the road by his home grew Egyptian brown of luxuriant growth, well fruited with shapely bolls, as if perfectly acclimated. He further emphasized that gray cotton is grown in India, varieties similar to the Egyptian in Peru and Hawaii and South America, and a reddish-hued cotton also in Peru. With black added to these and the native white cotton, he insists that a natural cotton spectrum could be easily built.

Luther Burbank, whose rare combinations of bewitching colors in flowers and magnificent successes in hybridizing fruits has won the glowing admiration of the world, believes black cotton is not "an absolute impossibility." He is slightly incredulous, though, and comments: "It is somewhat doubtful if black cotton will be produced in this generation, if ever." He wouldn't undertake its production at any price, he writes.

The fundamental principles in breeding the new variety of cotton are exceedingly simple. Early in the day, when the blossom first opens wide, the pollen is shaken from the bloom of one variety into the bloom of another. The fertilized bloom is then tied up that bees may not "infect." Though white the first day, the blooms turn pink and drop the following day, so that the operation is as brief as it is simple. The Egyptian cotton used as one basic stock is of a brownish hue. The Russell big boll, on which it is "crossed," enlarges the Egyptian boll and adds quality to the length of the fiber. The seed of the Russell also has a blanket wrapped about of exceedingly short, greenish, fuzzy-like fiber. The elongation of this has had a distinct effect in producing the bronzed type of hybrid cotton.

Much interest is being manifested in the work of Mr. Brabham, which has been carried on throughout a number of years.

One large cotton-manufacturing establishment in New England, which consumes annually 120,000 bales of cotton for "mercerized" goods, is making elaborate experiments with the Brabham product. Tests are being made of the tensile strength of the fiber, the fastness of the color and the calendarizing qualities of the cloth. Should the experiments bear out the general belief of manufacturers a tremendous demand would arise for the use of the cotton in "mercerized" goods manufacture.

J. IRBY KOON.

Standard Oil Orders Two \$1,000,000 Tank Steamers.

The Standard Oil Co. of New Jersey has recently awarded contracts to the Maryland Steel Co., Sparrows Point, Md., for the construction of two oil-tank steamers to cost approximately \$1,000,000 each.

The vessels, which are to be identical in design, will be 500 feet long, 68 feet beam and 38 feet deep. They will be of the twin-screw type, and will have a carrying capacity of about 14,900 tons of oil. They are to be completed in the first half of 1917.

Newly Completed Bridge With Interesting and Novel Features

A new bridge embracing a number of interesting and novel features, especially in the case of a movable span, has recently been built over the Arkansas River near Pine Bluff, Ark., as illustrated herewith.

The bridge was built by Jefferson County, Ark., and is situated about four and one-half miles upstream from

branch of the Cotton Belt, and an interurban road from Little Rock to Pine Bluff. So far none of these lines has been built.

The bridge is approximately 3010 feet long and consists of 1610 feet of steel structure and 1400 feet of timber trestle. The substructure consists of the north



MOVABLE SPAN, WHICH CAN BE SHIFTED TO ANY PART OF BRIDGE IF REQUIRED.

Pine Bluff. It is a combined railway and highway bridge. Pine Bluff is on the south bank of the river, and the highway portion of the bridge is designed to give access to Pine Bluff from the portion of the county north of the river. The people considered it advisable

abutment, which is founded on 106 forty-foot timber piles and seven piers sunk by the pneumatic process to a depth of approximately 70 feet below extreme low water.

The channel of the Arkansas River is liable to shift at any time. At the Cotton Belt bridge a few miles



LIFTING MECHANISM AT EACH END OF SPAN.



REAR VIEW OF MOTORS AND FLAT-LINK SPROCKET CHAINS.

to provide for railway traffic in order to furnish a crossing for certain proposed railways, among which were a line to connect with the Memphis-Little Rock branch of the Rock Island, a cut-off for the Little Rock-Pine Bluff

below Pine Bluff the channel shifted from one side of the river to the other, necessitating the construction of a new swing span, so that the bridge now has two swing spans. It was therefore considered desirable in this case

to use a type of construction such that the movable span can be shifted to any part of the bridge in case of a change in the location of the channel. This requirement has been met by the use of the vertical lift type of movable span. The span moves vertically through a height of 49 feet from its lowest position so as to provide a vertical clearance above high water of 60 feet and above low water of 90 feet. The horizontal clearance is 225 feet between piers.

The most interesting features of the design relate to the lifting and operating mechanism. Previous vertical lift bridges had been provided with wire ropes or cables, there being groups of such ropes at each corner of the lift span passing over drums at the tops of the towers and down to counterweights on the inside of the towers. In order to avoid the objections which have been made to this type of construction, it was decided to use flat link chains instead of wire ropes. The construction of these chains will be evident from the photographs.

The bridge is operated by two 40-horsepower motors, one at each end of the span. The motors are geared to sprocket wheels engaging at each corner of the span a pair of sprocket chains. The rotation of the drive sprockets causes the span to ascend or descend. The lift span works with great smoothness and exceptional freedom from vibration.

The bridge is provided with a single track railway between the trusses and two 11-foot roadways, one on the upstream side and one on the downstream side of the bridge.

The plans were prepared by Hedrick & Cochrane, Consulting Engineers, Kansas City, Mo., and the field work was supervised under their direction, C. S. Reagan being resident engineer. The bridge was built by the Missouri Valley Bridge & Iron Co., Leavenworth, Kans. The steel was furnished by the American Bridge Co.

Possible Source of Potash.

Following Secretary Lane's instructions to put special effort into its potash investigations, the United States Geological Survey is publishing the suggestion that a possible source of potash may exist in the tailings piled up at the concentrating mills of the big copper mines in the West. The "porphyry" ores which are being mined by the millions of tons annually contain several times as much potash as copper, and this remains in the tailings at the mills, material already finely ground and in condition for treatment, as well as easily accessible for shipment. This potash, however, is locked up in the form of silicate minerals, and the commercial extraction of potash from silicates has been for several years the subject of earnest study by industrial chemists. If this problem can be solved, it would appear that a large tonnage of potash-bearing material is available in the Western States.

The brief report issued this week by the Geological Survey (Bulletin 620-J) contains typical analyses of these "porphyry" ores from the largest copper camps in a half-dozen States, as well as tonnage estimates of the ore reserves and ore already mined and treated. A few check analyses of tailings are also published.

Suggestion of a possible potash reserve in these tailings originated with B. S. Butler, the geologist in charge of the Survey's statistical study of copper, who has based this short paper upon the published analyses of specimens collected by the Government geologists in their investigations of the mining districts.

The significant fact regarding this possible source of potash is that in quantity it is more than adequate to meet all the needs of the country as measured by present consumption of potash. The problem of potash extraction from this by-product of the copper industry therefore becomes an attractive one for the chemical engineer and mineral technologist.

To Manufacture Tannic Acid.

Tannic acid from chestnut oak will be manufactured at Chattanooga by the Marion (Va.) Extract Co. About \$150,000 will be invested for the plant, and from 50 to 100 cords of wood will be used each day. A 10-acre site has been purchased, and the construction of buildings will soon begin. About 100 men will be employed by the plant when it is in operation.

News and Views from Our Readers

Evidences of Wide Sweeping Prosperity South and Southwest.

HASKINS WILLIAMS of Birmingham Rail & Locomotive Co., Birmingham, Ala.

The writer has recently made a trip over the territory comprising Arkansas, Louisiana and East Texas, and part of Southern Mississippi. I found everyone in fine spirits over the business situation, and a great deal of planning going on for future development, and also a great deal of business being actually placed.

The yellow pine lumber manufacturers were all feeling very jubilant over the brisk and advancing market conditions, and they all stated that they were selling more than their cut, and instead of running part time, as had been the case for over a year, everyone was running their mill to full capacity every day. I met several sawmill machinery salesmen, and they stated that on account of several big fires that quite a number of plants had suffered in the last 12 months; that they were having quite a brisk business in their line; that practically all these mills were rebuilding their plants, and in nearly every instance buying entirely new mills.

Our sales have been exceptionally good during the past 30 days, we having sold one Marion steam shovel, two passenger coaches, 51 dump cars and six locomotives, besides a very satisfactory tonnage in new and relaying rails.

One thing that struck me very forcibly on this trip was the present prosperity in the oil fields. While at Humble, Tex., I noticed not less than 40 carloads of boilers, engines, piping, machinery, steel pipe and casing standing on the side-track waiting to be unloaded. It seems that a great many of the industries, and especially the railroads, have adopted oil as fuel, and also the oil fields in the Southwest are reaping a great benefit from the big demand for gasoline.

The whole South seems prosperous at the present time, and the markets seem to be broadening every day.

One significant fact of the present wave of prosperity is the big increase in railroad traffic. I was told yesterday by one of the officials of the Illinois Central Railroad that in October their gross earnings were the largest in the history of that road.

South's Richness in Building Stone.

ROBERT B. SHAPINSKY, 2110 Blair Boulevard, Nashville, Tenn.

With the marbles of Georgia and the oolitic limestones of Kentucky and Alabama, the South may fairly be considered independent of the rest of the world for these two important members of the cut-stone field. Both the Alabama and the Kentucky limestones may crowd the stones of the North out of competition if equitable freight rates are granted, and it is now believed that the Southern Railway will establish new rates that will enable the Alabama quarry products to meet the competition of Bedford, Ind., stone at any point in the South. A request for such changes has been made by the Foster & Creighton Company, whose offices are in Nashville, but whose quarries, covering 1700 acres, are at Rockwood, Ala. It is almost a certainty that general commodity rates will replace the class rates, on which combinations must be made, now in effect.

Tests made by Robert H. McNeilly, assistant professor of civil engineering at Vanderbilt University, established that both the Rockwood and Bowling Green stones were higher in crushing strength than the Bedford stone, the average crushing strength of the Rockwood specimens being 4553 pounds per square inch, the Bowling Green stone 3494 and the Bedford 3084. Abrasion tests gave the following results: The Rockwood stone lost 15.25 per cent. in weight after 30 minutes on the rubbing table; the Bedford stone, 21.6 per cent., and the Bowling Green stone, 29.2 per cent. However, the Bowling Green stone is more easily worked than either of the others. Professor McNeilly's description of the three stones follows:

"The Rockwood limestone is an almost pure oolitic limestone, with frequent small crystals of calcite distributed throughout its mass. It resembles closely the

Bedford stone in appearance, except that it has a slightly more open texture. The Bowling Green stone is finer in grain, softer and more easily pulverized than either the Bedford or Rockwood stones, and contains an appreciable amount of petroleum which lends somewhat to the ease with which it is worked. In all three stones the texture is exceptionally uniform, as it is almost impossible to detect the bedding planes by eye; however, in this respect the Bowling Green stone is most marked, and it is frequently necessary to test by hammer to detect which is the bed plane. Rockwood stone is lighter in color than either the Bedford or Bowling Green stones."

In summing up the results of his tests, Professor McNeilly states: "The Rockwood stone shows itself to be a superior building stone to the others in every respect except density, but even here, since its absorption of water is the lowest, it should prove to be the most durable, while because of the smaller weight per cubic foot it can be placed more cheaply, on account of freight charges."

"From my examination of these three stones, I believe a builder would make no mistake in using any one of the three, for they are all unquestionably very superior building stones. While each stone may have some advantages over the others for some especially desired characteristics, as a building stone for general purposes each is highly satisfactory."

Finds the People Confident, Conditions Sound and Money Plentiful.

ROBERT S. MOONEY, Vice-president Baltimore Commercial Bank, Baltimore, Md.

Having just returned from a trip through the South, I would sum up the business situation as follows:

Conditions in most of the Southern cities are very satisfactory. The banks claim to have all of the money they need, and in a great many cases surplus funds which they are quite anxious to loan. The banks are loaning 10 cents per pound on cotton against warehouse receipts, which indicates confidence on their part that there will be no material depreciation in the price of that staple.

Turpentine and rosin have advanced in price, and this has created a better feeling on the part of the bankers toward the naval stores people.

While the people are confident and conditions seem sound, the plethora of money in New York and the other big centers has caused the banks in those centers to loan money at low rates, and there is some danger from over-borrowing, due to the comparative ease with which money can be secured.

I found that a great many new enterprises had been started and a great many more planned.

In several of the Southern cities the banks were loaning money to the better class of borrowers at 5 per cent., and in some instances as low as 4½ per cent.

In the West there is plenty of money available for good borrowers, but new ventures are being scrutinized with great care.

Big Development Operations Projected in Florida.

ORLANDO SECURITIES Co., Westminster Building, Chicago, Ill.

We have purchased about 30,000 acres of land in Orange county, Florida, in the vicinity of Orlando, representing a merger of the Ransom and Andrews interests, which have been in land colonization for a number of years. We are going to develop and colonize this tract of land on a rather extensive scale, advocating most of all the raising of good breeds of cattle and hogs, and are clearing a large number of acres this fall for that purpose.

Incidentally, we have been instrumental in the forming of a drainage district, and we are about ready to advertise for bids for this work. There will be something like 60 miles of ditches and canals to be built and over 7000 cubic yards of dirt to be moved. I thought it barely possible that you might be able to put us in

touch with builders and contractors who would be interested in bidding for this contract. We have estimated the cost of construction at from \$125,000 to \$175,000. We are desirous of having the work pushed through as rapidly as possible, and would not consider any bids which entailed the taking of more than a year or a year and six months to complete the work. Four dredges could be used to good advantage.

Large Increase in Volume of Business Expected

GEO. R. BROWN, Secretary Board of Trade, Little Rock, Arkansas.

The Arkansas Tight Barrel Stave and Heading Manufacturers' Association held a very important meeting on the 15th inst., attended by delegates from Arkansas, Texas and Louisiana, the president, W. W. Wilson, presiding.

The principal object of the meeting was to plan with the railroad officials for the more rapid movement of the product, to increase the output generally, and to take advantage of the foreign demand.

The manufacturers are confident that there will be a large increase in the volume of business.

The officers as follows were unanimously elected for the ensuing year: W. W. Wilson, Little Rock, president; Geo. Walbert, Batesville, vice-president; E. R. Norton, Benton, secretary and treasurer.

Among the prominent manufacturers attending the meeting were J. F. Hast & Sons, Paragould; Wilson & Wrape Stave Co., Little Rock; Norton & Wheeler, Benton; Beeson Stave Co., Horatio; Arkadelphia Milling Co.; Hampton Stave Co., Fordyce.

Wide Influence National in Its Scope.

W. A. McRAE, Commissioner of Agriculture the State of Florida, Department of Agriculture, Tallahassee.

It should be needless for us to say that the course of the MANUFACTURERS RECORD is entirely approved. We believe that its value as an exponent of the resources of the South can hardly be overestimated. In fact, we know of no journal that has ever been published in the South that compares with it in this respect. Its advertisements of the value of the industrial resources of the South have never been equalled, and undoubtedly it is exerting a wide influence national in its scope. We trust its power for good will never wane.

We are taking advantage of your offer of \$6 for two years, and will approve your bill for that amount for a period beginning September 8, 1915, to September 8, 1917, and forward to the Comptroller of the State, who will issue warrant for the same.

\$5,000,000 Road Building Work Projected in Memphis Territory.

GEO. W. NEAL, Manager Allen Gravel Co., Memphis, Tennessee.

We have a ready market for all the rock and cherts we produce for road-making in the eastern part of Arkansas. The demand for road-building material will far exceed the production, owing to the immense amount of road-construction work contemplated in this territory. It may surprise you, but there is \$5,000,000 worth of this kind of work for next year within a radius of 100 miles of Memphis, and this work will continue to increase for several years to come.

A Development That Greatly Benefits.

T. J. TAYLOR, Cashier the Martin Bank, Martin, Tenn.

The Weakley County Co-operative Creamery has recently been established at this place with modern machinery, buildings and everything necessary for the successful operation of an up-to-date creamery. Martin is surrounded by a fine farming country, and this will be a great help in further developing it. The creamery is under the management of one of the best dairy men in the South.

Opportunity for House Building Company.

F. M. RUNNELS, Secretary Durham Chamber of Commerce, Durham, N. C.

A large construction company sufficiently financed to acquire considerable acreage, build streets and sidewalks and erect 50 or 75 cottages, either one or two story, of a modern type, can find a splendid field for operations in Durham. This city has outgrown itself, and a housing proposition is a problem that we are face to face with. The houses should be of such type as to rent from \$17.50 to \$25 per month, or to sell on the monthly payment plan. This organization will be glad to give information to any responsible concern that wishes to look into the matter.

Effect of Prohibition.

GARRETT & Co., Wine Growers, Norfolk, Va.

The thought has occurred to us that possibly a little advertisement in your paper of storage cooperage which we have in large quantities for sale owing to the prohibition movement might bring us some returns.

Advise us, please, of your advertising rates, and if you think that your paper would be a good channel for cotton-oil factories and other factories throughout the country who might need oak, cypress or steel glass-lined cooperage, or tankage in quantities ranging from 1000 gallons capacity up to 35,000 gallons capacity.

We have at our various plants in the country about 4,000,000 gallons of this cooperage, and it looks like the prohibition clause is going to force us to sell the most of it.

Tampa as a Market for Northern-Made Products.

GREENE F. CANNON, Manager, Tampa, Fla.

Baker & Holmes Company of Jacksonville, have through their branch house at Tampa, Fla., discharged the steamer Crickett loaded with 448 tons of Kings Windsor cement and wood pulp plaster, 5000 barrels of Alsens Portland cement, and are receiving from the Mallory docks 1500 squares of H. W. Johns-Manville Regal and Brooks brand asbestos roofing.

They have a shipment of 150,000 square feet of Beaver board that is being placed in their warehouse. The other lines that they handle have already been placed in stock.

Wants Information About Florida.

FREDERICK C. CAVANAGH, R. F. D., Box 56, Long Branch, N. J.

Some time back I was reading the New York Herald of September 26, 1915, containing a letter from you about the South. I intended to go to Oregon to settle with my family, but since reading your article the South has appealed to me, and if I am not asking too much, would you be kind enough to let me know the best place in Florida to settle for general all-round farming. We are seeking a warmer climate.

Opportunity for Dairy Operations.

V. V. KELSEY, Erwin, Tenn.

We shall thank you to announce in your paper that we believe that Erwin affords excellent opportunities for a first-class dairy. Erwin is a growing town of some 2500 people. Good farming and grazing land can be had near town at reasonable prices. We believe this is a good proposition for the right parties.

How an Engineer Is Kept Busy.

T. E. SMITH, Steam Shovel Engineer, Wadesboro, N. C.

The MANUFACTURERS RECORD is the best construction work giver I have ever read. Can't speak enough for it.

HOW TO FOSTER EXPORT TRADE.**Opinions of 10,000 Business Men Already Received by Federal Trade Commission.**

Washington, D. C., November 22—[Special].—Business men are responding promptly to the Federal Trade Commission's general inquiry regarding foreign trade conditions. Manufacturers and export merchants are acquainting the Commission with the problems confronting them in foreign trade, and much valuable information is being obtained through letters and through the return cards and schedules which were sent out.

Nearly 10,000 replies have already been received. While these have not yet been tabulated, the Commission states that business men are giving their views frankly in regard to the advantages and disadvantages of co-operation in export trade.

A machinery manufacturer with a large European business says:

"On each trip I have realized more strongly the difficulties and the deficiencies of the American manufacturer in his export arrangements, and also I have realized the necessity for training and knowledge and experience and co-operation to get a successful foreign business."

An important Southern lumber manufacturer states:

"We are heartily in favor of a selling organization composed of American lumber manufacturers catering to the foreign buyers. We are of the opinion that such an organization would be in position to obtain lower ocean freight rates; to give closer attention to distress shipments either at American ports or foreign; provide for safer methods of payment for the goods; take advantage of difference in exchange; obtain better rates of insurance; give greater publicity to various species of woods; establish a territory of greater distribution and develop a market for waste, such as pit props and fire-wood."

A producer of wire and wire goods writes:

"Our observations and investigations of the export situation have shown us that co-operative organizations are almost a necessity."

Another manufacturer says:

"We have tried many times to do business in South America as well as the Orient."

"For a small concern this is an utter impossibility."

We have had an exasperating experience with port duties, consul fees, fines for improper wording of bills of lading, improper boxing, improper net and gross weights and cubic contents, and dimensions.

"We are satisfied that these things as well as the financing of export operations can only be taken care of by large organizations equipped for the purpose."

Not all manufacturers are in favor of export combinations. Some fear they would prove oppressive, while others explain that the special nature of their own products or other reasons lead them to doubt the efficacy of combinations in their lines. A New England shoe manufacturer, whose products are known internationally, writes:

"We have had 15 years' experience in foreign trade to all parts of the world, and we are decidedly of the opinion that where the article that is to be sold is in common use in the countries in which it is being offered, and it is of sufficient volume in quantity and amount, it is decidedly better to be represented by an individual salesman whose business it is to push that article for the house employing him."

A lumber manufacturer wrote:

"We ourselves would not be interested in a common selling agency for export stock. We believe, however, that some benefit could be obtained by co-operation among the various exporters, and feel that it would be in the public interest."

The spirit of many letters which are coming in to the Commission is illustrated by the following expression of a manufacturer of asbestos goods:

"We have received samples of German make which we were required to duplicate in quality and price. We supplied a better quality and equalled the price. We are very enthusiastic over foreign trade, and we are anxious to hold same after the European war is over."

"Our motto is 'Made in America,' and we intend to assist to make said slogan ring in all the markets of the world."

"We seem to dislike the idea of combinations for securing export business. But we have open minds."

That many business men are seriously concerned by the prospect of wholesale dumping of foreign goods upon the domestic market at the conclusion of the war, is evidenced by many letters on this subject. Thus, a large manufacturer of dental supplies says:

"We are ready to co-operate and do anything we can to bring about better trade conditions in any part of the world, but we are in close correspondence with manufacturers in Germany particularly, caused by the fact that Germany was a very large producer of the world's output of dental goods, consisting of instruments, filling material and so forth, prior to the war. We are receiving letters from the manufacturers in Germany showing, notwithstanding the fact that the war is raging and their people are mostly at the front, that their dental and other factories are running to the limit, supplied by female or child labor where they cannot get men, and they are storing up millions of dollars' worth of goods against the time when this war shall be no more. When that time comes any sane man can imagine what will happen."

A prominent coal and iron company writes:

"We have recently, at considerable expense, put up plants here in connection with our by-product coke ovens for the manufacture of benzol, toluol and solvent naphthas. There is no doubt in our minds that we can continue these plants in operation after the war, provided we are only called upon to meet legitimate competition; but the well-known German dumping policy, if carried to its ultimate conclusion, will undoubtedly force us to shut down these plants as soon as the Germans are in position to resume shipments to this country unless some amendment is made to our tariff law to prevent this unfair competition."

Many writers emphasize the handicap resulting from the lack of American-owned ships. A Northwestern milling company says:

"We are particularly interested in securing protection for the American manufacturer or shipper against restraint of foreign trade resulting from difficulties and handicaps imposed by foreign-owned steamship lines. We realize more every day that the American manufacturer or shipper is entirely at the mercy and in the hands of foreign-owned steamship lines."

"Foreign-owned steamship lines are receiving in return for hauling wheat and wheat products from American seaports to European seaports at least 50, if not 75 per cent. of the total value of American wheat and products that are being exported to Europe. We are in position to substantiate our statements with specific and dependable data in our possession."

The Commission is much interested in the information obtained thus far, and will push the inquiry with all possible dispatch in order to lay the facts before Congress. Further announcements will be made by the Commission as the investigation progresses.

Charleston Annexes Sea Islands.

Charleston, S. C., November 17—[Special].—Figuratively, John's Island today became a part of the United States, the annexation occurring through the construction of a bridge from the mainland to the island over the Stono River, which was officially opened today with fitting ceremonies and rejoicing all around.

The bridge, constructed of steel and timber, forms the first road connection John's, Westmaland and several other adjacent and connecting islands have ever had with Charleston, and thus the rest of the world. Heretofore the only connection has been a very uncertain hand-power ferry, which maintained a schedule until 9 o'clock at night. Therefore, in effect at least, John's Island, with a land area of 19 or 20 miles; Westmaland Island, which is already connected with John's by a bridge, with an area of 18x12 miles, and several other smaller connecting islands, through the Stono bridge, today became a part of the county of Charleston, the State of South Carolina and the United States of America.

The group of islands, of which John's is a part, constitute some of Charleston county's best farming lands. The famous Sea Island cotton is grown here, also truck, forage and grain crops.

\$100,000 Brick Plant Begins Operation in North Carolina

[Special Correspondence Manufacturers Record.]

Raleigh, N. C., November 10.

Exceptional construction and other features are said to be embodied in the up-to-date brickmaking plant just put in operation at Brickhaven, Chatham county N. C., by the Cherokee Brick Co. of Raleigh. The plant, which is to have a daily output of 100,000 brick and employ 50 men, is located in the valley of the Cape Fear River, where there is a large deposit of clay of a high type. Electric power, furnished by the Carolina Power & Light Co. over a line built to Brickhaven for supplying the 450 horse-power required, is used throughout. A. R. D. Johnson is president; E. C. Hillyer, vice-president, and C. A. Johnson is the secretary and treasurer, all of Raleigh.

As this plant was under construction when the war broke out and during the time the pessimists of the cotton country were predicting financial ruin for the South because of low-priced cotton, the determination of those backing the enterprise to bring it to a successful completion is an object-lesson illustrating what can be accomplished under such conditions by men who have faith in their ability and in their country.

Modern methods of handling are utilized from the time the clay is dug by a steam shovel, loaded on steel dump cars and hauled by a locomotive to the point where it is prepared, tempered and made into the finished product. Details of the handling of the material were worked out and perfected by Vice-President Hillyer, who also did the necessary general engineering work and superintended the construction of the plant. The problem of handling the large production, both into and out of the kilns, has been minimized to the last degree by the use of mechanical devices and electric power to eliminate work usually done by hand.

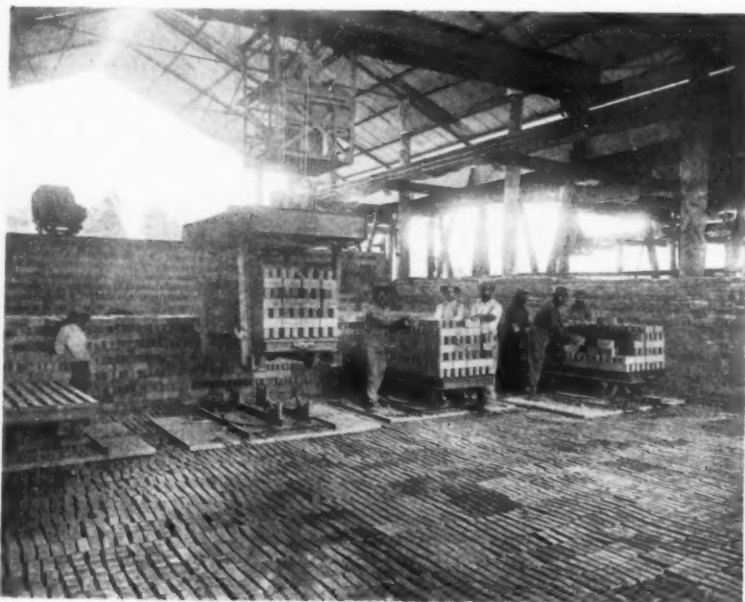
From the point where the clay is prepared and made into bricks the latter are taken on steel cars and carried to the dryer. After drying they are conveyed by a trav-

in fuel. Steel-trussed, metal-covered, permanent roofs cover all the kilns.

From the kilns a traveling crane takes the burned brick, 700 at a time, and loads them into gondola cars. At least four-fifths of the breakage due to the usual method of handling by means of wheelbarrows is said to be eliminated. The crane service for shipping also makes possible the shipment of brick at a rate not attainable by other methods of loading cars. The company loads and ships out of one kiln a car of brick in an hour, and is equipped for carrying on this part of the work at night as well as by day.

The handling of coal both for drying and burning the brick is done with the greatest dispatch and at the lowest cost, due to the economy and efficiency of the method designed and carried out by Mr. Hillyer.

FRED. A. OLDS.



INSIDE KILN: SETTING BRICK FROM TURNABLE PLATFORMS, THE LATTER SERVED BY TRAVELING CRANES.

Augusta's Flood Prevention and Terminal Improvement Activities.

Augusta, Ga., November 18.—[Special].—After generations of annual floods that overflow from the Savannah River into the heart of the business and residential sections of Augusta, this city now feels safe from such annual invasions.

In addition to the co-operative work done by the Government, Augusta has about completed work that will cost approximately \$1,750,000 in the construction of a levee on the city side of the Savannah River. This levee will hold the annual fresher waters within the river banks, but engineers who have studied the situation state that it will be necessary to face the levee with either "rip-rap" or a six-inch layer of concrete to protect Augusta against the highest flood waters that are ever known. Augusta hopes to enlist the aid of the Government in facing the levee, or at least to find some way to continue the work that has already cost such large sums and thereby secure permanent protection.

In 1912 the citizens voted a \$1,000,000 bond issue for flood protection. Construction work was begun in December of the same year, and the contracts will be practically all be completed before the end of this year. Supplementing this fund, \$750,000 in bonds were voted last year. The chief contract for the levee construction was let to A. J. Twiggs & Sons of Augusta and the Globe Dredging Co. of Savannah, Morrison & Glover,

contractors of Augusta and C. E. Teague, contractor of Columbia, had supplemental contracts.

The levee, of earth, is 11 miles long; averages 10 feet above high water; eight feet across the top; 100 feet at the base.

The building of the levee along the riverfront, which parallels and is immediately in the rear of the leading business streets, and the consequent stoppage of direct landings of the boats at the many wharves connecting with the various stores, necessitated a change in shipping arrangements. To take care of the new situation the city is now having constructed a wharf terminal, through which all freight will be handled.

The Georgia Contracting Co. of Augusta has the contract for and has about completed this building. It has a pile foundation and sheet-metal sides. The shed, with two tracks, one on each side, and two platforms, covers an area of approximately 90x250 feet. Electrically-driven loading and unloading equipment will be installed, included in which will be an electrically-driven crane. Though these city terminals are not complete, freight is being handled through them, a barge from Savannah being today tied up there unloading a large cargo.

While the people of Augusta have been working for flood protection and better terminals, they have continued their efforts of many years' standing to secure better shipping facilities. To this end the Augusta delegation at the Atlantic Deeper Waterways Association Convention, which was held in Savannah last week, between the sessions got together with the Savannah business men and formed the Savannah River Improvement Association—Augusta to Savannah. United under the one banner, this organization will at once begin a campaign to secure Government aid for deepening and standardizing the channel depth from Augusta to Savannah to seven feet. A Government survey is now being made of the project, and as the result it is expected that Congress at an early date will be asked to take action.

Thomas Purse, secretary of the Savannah Board of Trade, under the auspices of which the meetings of the citizens of the two cities have been held, said to the MANUFACTURERS RECORD: "During the 24 years preceding 1913 commerce to the amount of approximately \$75,000,000 was transported between Savannah and Augusta. The present uncertain depth of nominally five feet has, by reason of the recent large increase in river traffic, become inadequate. It is for this reason that the business men of Augusta and Savannah have decided to get behind the propaganda to deepen the channel an additional two feet. The towns and the citizens of the territory between here and the head of navigation will be asked to join our ranks to aid in the development. The board of directors will be composed, when we effect our final organization, of the representatives appointed by the various commercial organizations of the two cities. The headquarters will be in Augusta."

Prominent among those in the new organization are Capt. John D. Twiggs and Thomas Barrett of Augusta and George B. Elton and Thomas M. Haynes of Savannah.

ROY G. BOOKER.

Rumored Deal for Newport News Shipyard.

It is rumored from New York and Norfolk that the new Midvale Steel & Ordnance Co., of which William E. Corey is president, has completed negotiations for the purchase of the Newport News Shipbuilding & Drydock Co., besides an extensive tract of waterfront land owned by the Old Dominion Land Co. at Newport News. The transaction is reported as to involve an expenditure of approximately \$40,000,000 for the purchases mentioned, thus adding the Newport News plant to the various important iron and steel enterprises and shipbuilding properties which the Midvale corporation has already acquired in connection with its plans for manufacturing steel and building ships. The conclusion of the rumored sale would enable the Midvale Steel & Ordnance Co. to compete with the great shipyards of Europe in the unusual activity now prevailing in the construction and repair of vessels, which will doubtless steadily continue until the shipbuilders of the world have replaced the immense tonnage being destroyed because of the European war.



STEAM SHOVEL LOADING THE CLAY ON STEEL CARS AT THE PIT.

eling crane to the kilns, where the "setters" take them from the dryer cars, placed on turntable platforms and set the brick. The crane service successfully eliminates "tossing," thereby facilitating the setting, besides reducing this part of the manufacturing cost.

Unusually high and wide kilns have been built, higher than ever attempted where the brick are tossed. This method of construction is said to reduce the proportion of salmon brick and effect the greatest possible economy

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IRON ACTIVITY IN BIRMINGHAM.

Suggestions of 1906 Conditions.

Birmingham, Ala., November 20.

There is an air in the Birmingham district today that reminds one of the days of '06 and '07, with predictions that next year will experience from \$20 to \$30 pig-iron. Just how nearly these figures will represent true conditions, of course, time will only prove. However, excitement is at "fever heat," and sellers are in a better frame of mind than they have been at any time for the past six or seven years. In fact, they have ceased to solicit business, and all quotations are made subject to change on 24 hours' notice. Old customers are being taken care of as they come in the market, but no extra inducements are being offered for extended deliveries. Fourteen dollars per ton at the furnace represents the market as a whole for delivery over the first half of next year, with possibly \$13.50 being taken for prompt or nearby shipment. Special analysis iron is being sold as high as \$16 per ton at the furnace for the higher silicons. Southern charcoal iron is quoted at \$22 per ton at the furnace, with two furnaces in the State being in operation on this class of iron. The Shelby furnace was out of blast for some time, but recently has been blown in again, and some record runs as to output are being made. By the end of the first quarter of 1916 there is no doubt but that the Birmingham district will have to its credit a record-breaking production, judging from the furnaces that have been blown in and those that are to be blown in by that time. Stocks have fallen low, and much of the warrant iron is disappearing from the market. It has been stated that preparations are being made to blow in the Woodstock furnaces at Anniston, Ala., which have been idle for several years past.

It is rumored that the Steel Corporation is on the verge of divulging plans that will place the Tennessee company of the district a step further in the production of steel products.

Both water and soil pipe have shown improvement. One of the large concerns has just received a diversified pipe order for South America totaling \$35,000. This is the result of a systematic working of the Latin-American trade by this progressive concern.

Y. A. DYER.

Activity in Coal Mining in East Kentucky.

Whitesburg, Ky., November 22—[Special].—Coal operators of the Elkhorn field of Eastern Kentucky look with much interest upon the consolidation the past week of the Elkhorn Fuel Co. of Beaver Creek, Knott-Floyd border, and the Elkhorn Mining Corporation of the Fleming-Haymond-Hemphill field, Letcher county, into one concern, the Elkhorn Coal Corporation, with a capital stock of \$28,600,000. The new company will be the largest individual owner of coal lands, 200,000 acres, against 100,000 for the Consolidation. It is rumored that a number of new plants will be put into operation by the Elkhorn Coal Corporation during the year 1916, which will mean much for coal production of the section comprising the five counties. A close second in importance to the main Elkhorn field is the territory now being rapidly developed around Hazard, Perry county, reached by the L. and E. branch of the Louisville & Nashville. Below Hazard is First Creek, where the Louisville & Nashville has practically completed eight miles of road out from the main line, where four coal concerns are rapidly getting into readiness for prosperous operations. Among the First Creek companies are the Harvey Coal Co., the Kentucky Block Coal Co., the First Creek Coal Co. and the Daniel Boone Coal Co., the first two of which will begin shipping coal within eight or ten days—by December 1 at least. A few days ago West Virginia and Tennessee coal operators leased another 400-acre tract and announced the initial work for the fifth operation on First Creek.

At Domino the Himyar Coal Corporation is operating its mines day and night shift. The company announces the opening of two more additional mines about the first of the new year.

Between Domino and Hazard is Lennut, where the North Fork Coal Co. is building 40 additional miners'

houses, constructing an additional tippie and opening another mine, with practically the doubling of its output January 1. The Bluegrass Coal Co. made a number of changes lately, C. R. Luttrell having sold his interests to G. F. Bishop of Fairmont, W. Va., who will become general manager. He will have associated with him a number of wealthy West Virginia operators, who plan extensions in the plant.

At Lowthair, one mile above Hazard, is the Ashless Coal Corporation, made up largely of Roanoke (Va.) people, and the Kentucky-Jewel Coal Co., largely of Kentucky and Tennessee folk, are operating day and night.

Buffalo Creek, immediately above, which is being reached by a short line branch of the L. & N., is now a scene of much industrial activity, new town being built, mines opened, grade work in process, leases being made, etc. Here the Diamond Block Coal Co. and the Buffalo Creek Coal Co. are rushing their work to be ready to begin shipping coal as soon as the railroad completes its branch, which will be within the next two or three weeks. A few days ago Jarvis Collins and others of Bramwell, W. Va., leased 15,000 acres along Buffalo Creek for immediate development. Engineers have been put on the ground starting the preliminary work.

Buffalo Creek is destined to become a heavy feeder for the L. & N., and that in the very near future. A short distance above is the Douglass Coal Co., enjoying a prosperous season. This is one of the pioneer operating companies in the Hazard field, being the first to make Hazard's history. At Glomawr (a Welsh term meaning "good coal"), just above, on a short line branch of the L. & N., is the new operation of the East Tennessee Coal Co., composed of Knoxville and other East Tennessee coal people. They are mining the No. 4 seam. With the advent of 1916 the company will double its output, when three new mines will be put to working.

Increases will also be made in the old mines, while night shifts are to be added. Here the East Tennessee Power Co. is rapidly constructing a large central power station, from which power is to be generated for all the different mines in the Hazard field. The new plant, costing some \$600,000, has been under construction for some time. Transmission lines are being built, connecting the plant with the different operations.

Developing New Townsite on West Coast of Florida.

Major Douglas F. Conoley, long prominent in the development of the Tarpon Springs section of Florida, has secured from the Southern Methodist Conference of Florida 400 acres of the Southern College property at Sutherland, which will be subdivided into town lots.

Sutherland is located on Tampa Bay, 23 miles northwest from Tampa. It is reached by the Atlantic Coast Line Railroad between Jacksonville and St. Petersburg, and from Tampa over the Tampa & Gulf Coast Railway, or by boat from that city to St. Petersburg. The townsite is said to have a perfect watershed, as the land slopes upward from the bay to a height of 100 feet before the crest is reached, producing an incline sufficient for the heaviest rains to run without washing.

Disposal of the property was prompted by a desire on the part of the Methodists to pay off indebtedness against the institution, to construct college buildings and to improve the property and equipment. Major Conoley's offer was accepted only after an agreement was reached regarding sale restrictions and methods of governing the municipality after incorporation. Half of the purchase price is to go to the college, a portion paying off indebtedness and the remainder to the improvement of the property. Improvements contemplated are the establishment of the Imhoff system of sewerage, water-works, park plots, cement walks, street grading, dredging waterfront, constructing seawall, and other work necessary in the development of a modern resort town.

"Bonds" Issued to Deposit Customers.

A new and interesting method of dealing with its customers has been adopted by the Oklahoma Gas & Electric Co. of Oklahoma City. It was the custom of the company to issue certificates of deposit bearing 5

per cent. interest to those customers from whom deposits were required to guarantee payment of bills, but it was found in practice that the interest feature was overlooked sometimes and confusion resulted, so the company now issues in place of the old certificates "baby bond" certificates, so called because each bears 5 per cent. interest coupons, with the dates of payment upon them. These "bonds" are in denominations of \$5 or \$10, or whatever the amount of deposit may be. This plan, which was designed and placed in effect at Oklahoma City by Henry Willmering, chief accountant of the company, is described by George B. Saunders, also of the company, in a recent issue of the "Electrical World." Mr. Saunders says that since the bond plan was put into effect it has been unusual to have an applicant for service protest concerning the deposit after he was acquainted with the regular interest feature, and he also thinks it has stimulated the savings idea with many persons, who are impressed by the fact that they are really making an investment when they pay the deposit and get a bond.

Steel Produced Direct From Ore in Canada.

Especial interest attaches to the electric smelter at Belleville, in the Kingston consular district, because of the production there of steel of all grades, including tool steel, direct from the ore. An unusual feature of the process is the use of a preheater that utilizes the heat from the waste gases produced during the smelting of the ore.

The preheater consists of two wrought-iron pipes 8 feet long, increasing regularly in diameter from 14 to 18 inches, to allow the charge to slide easily down the heated portion. These pipes are inclosed in the preheater stack, which has firebrick linings and baffle-plates with openings arranged in such a manner that the heated gases circulate about the preheater pipes.

The furnace is charged from the upper floor into the preheater, the charge consisting of iron ore, limestone and charcoal crushed to pass through a 1-inch mesh. The furnace is operated on a two-phase current, the transformers being connected by what is known as the Scot connection. The electrodes are 3 inches in diameter, threaded so that they can pass down continuously, and are used up entirely, there being practically no loss from short ends.

The plant was in operation for about two months, and demonstrated that steel can be made in this manner directly from ore containing 7.5 per cent. of titanium. A quantity of high-carbon steel was made, the ingots being perfectly sound and free from blowholes. The company intends to erect shortly a 3-ton furnace, with a view to making high-carbon tool steel and steel castings.—U. S. Commerce Reports.

Superior United States Clay Makes Industry Independent of Foreign Clays.

American glass manufacturers who have felt the necessity of depending upon foreign clays will be able hereafter to assert their independence of foreign material, as a result of experiments that have been conducted by the United States Bureau of Standards. The Pittsburgh laboratory of that bureau, which is located near one of the chief centers for the industry in the United States, working in co-operation with the clay-pot industries, has learned that glass refractories (pots in which the glass is melted) can be prepared from American clays, with resulting better quality than that of the article manufactured with the addition of German plastic clays.

The mixture prepared from American clays proved superior in the glass-corrosion tests, both to the mixtures prepared with German clays alone, and to those prepared from American and German clays combined.

The director of the Bureau of Standards states that the value of the results of this single investigation to American industry far surpasses the entire amount the Government has expended in the clay-products work since the time of its organization. The opinion of those in charge of the experiments is that from now on no foreign clays will be needed in this branch of manufacture. The work inaugurated by these experiments is now ready to be tried out on a large scale.

RAILROADS

[A complete record of all new railroad building in the South will be found in the Construction Department.]

HAVANA FERRY A SUCCESS.

Florida East Coast Railway Reaps Benefits of H. M. Flagler's Plans.

President W. H. Beardsley of the Florida East Coast Railway Co. refers in its annual report for its year ended June 30 especially to the establishment of the railroad ferry between Key West and Havana, saying that the gross earnings of the main line showed a decrease of \$486,554 as compared with the previous year, but, owing to the earnings from the ferry, which began operations early in January, 1915, this loss was turned into an increase of gross earnings of \$115,831.63 for the period. This steam ferry service for freight he alludes to as the crowning achievement in the life of the late Henry M. Flagler and the last important business transaction authorized by him. "Approving and carrying out his recommendation," says the report, "the company had constructed a twin-screw steel car ferry steamer, which was completed and put in service early in January of this year between Key West and Havana. This boat (the Henry M. Flagler), making daily round trips, has from the first been taxed to its capacity of approximately 30 loaded freight cars, and the service has become so popular that an additional steamer of the same type is being built to properly take care of the business."

The only change in the mileage of the road was the opening of the Kissimmee Valley extension, now known as the Okeechobee branch, 49 miles long from Kenansville to Okeechobee. It was finished and placed in operation last January. On the Key West extension the work of replacing temporary trestles with concrete bridges was continued, six of the improved structures being finished during the year. This leaves but one opening of importance to be thus bridged, and work at that point is approaching completion.

Oil is being substituted for coal as locomotive fuel. This is a new thing in Florida, and, in fact, in the Southeastern railroad field. It is indicated by the service already begun that this change will prove economical, and that it will increase efficiency as well as add to the comfort of the traveling public. Rock ballasting has also been placed on about 60 miles of line since last year, and other improvements were likewise made.

The income statement of the company shows total rail line revenue \$5,392,782.52, decrease as compared with the previous year \$4,863.54; total rail line expenses \$3,337,836.36, decrease \$378,377.37; income rail line \$2,054,946.16, increase \$373,513.83, or more than 22 per cent.; total income after adding net income from water line \$2,004,946.81, increase \$413,514.68, or over 24½ per cent.; surplus after total deductions from income \$213,319.34, increase \$97,104.86, or over 83½ per cent.

The water line earnings and expenses cover the period from January 6 to June 30, inclusive. Revenue of this line for that period was \$120,695.17 and the expenses were \$80,694.32, leaving the income \$40,000.85.

The total assets of the company shown by the general balance-sheet are \$52,104,403.56, an increase of \$2,148,009.51 as compared with the previous year. This includes the road and equipment at \$47,476,852.92.

SEABOARD AIR LINE'S YEAR.

Good Showing Under Adverse Conditions While Progress Was Maintained.

In the fifteenth annual report of the Seaboard Air Line, President W. J. Harahan says that 25½ miles of new line were added to the system during the year ended June 30, 1915, of which the Lake Wales extension from Bartow to Baynard, Fla., was the principal item, being 22 miles long. There were also 13 miles of new sidings and extensions of existing sidings built, although a small mileage of old sidings was removed. Seventeen passing tracks have been built, or extended, or are building. At

Jacksonville the company is completing a reinforced concrete viaduct 1418 feet long and 42 feet wide, this being for the purpose of carrying highway and street railway traffic on Duval street over the tracks of the Seaboard Air Line and the St. John's River Terminal Co., and also over Hogan's Creek.

Extensive improvements were made to the general office building of the company at Portsmouth, Va., by remodeling it with fireproof construction and adding to it two stories, increasing and modernizing the office facilities.

An interesting and economical arrangement was made with the Southern Railway for the joint use of tracks between Raleigh and Cary, N. C., 8½ miles, where the two lines are immediately parallel for the whole distance. This affords each road double-track facilities between these two points.

At Savannah, Ga., a coal elevator of reinforced concrete was completed. It has a storage capacity of 300 tons, and at Hutchinson's Island, also at Savannah, a steel tank of 100,000 gallons capacity was completed and with pipe lines was placed in service for auxiliary fire protection.

Many other improvements and betterments have also been made.

Like other lines in the South, the Seaboard Air Line severely felt the effects of the European war. The gross revenues decreased 16¼ per cent. as compared with the previous year. This decline in revenues was largely caused by the interruption of exports of cotton, phosphate rock, naval stores and other products and in the importation of fertilizer material. There was also a decrease in the traffic movement of lumber, fertilizers, general merchandise and almost all kinds of freight. In Florida there was a falling off in shipments of vegetables, etc., because the weather was unfavorable to truck raising. Passenger traffic experienced a decrease owing to depressed business conditions.

Fortunately, the necessity for economy was realized at the beginning of the war and a reduction of over 14½ per cent. in operating expenses was accomplished, the chief item of this being in transportation expenses, where the reduction amounted to over 16¼ per cent. In doing this careful attention was paid to safety and proper maintenance, and while no expenditures were made which were not necessary, the property was fully maintained.

The income account shows gross revenue \$21,280,462.79, decrease as compared with the previous year \$4,140,040.45; operating expenses and taxes \$15,984,781.63, decrease \$2,477,924.89; net operating revenue after taxes \$5,295,681.76, decrease \$1,662,115.56; operating income after uncollectible railway revenue \$5,286,778.82, decrease \$1,671,018.50; gross income \$5,720,623.48, decrease \$1,269,946.54; applicable to interest after rents and other charges \$5,519,887.85, decrease \$1,298,263.82; balance after interest \$1,501,632.36, decrease \$1,332,583.40; net income after full 5 per cent. interest on adjustment (income) bonds \$341,632.36, decrease \$1,332,383.40.

CUMBERLAND & MANCHESTER.

Read Construction Co. Has General Contract for 24 Miles of Kentucky Road.

Barbourville, Ky., November 22—[Special].—The general contract for building the Cumberland & Manchester Railroad from Barbourville to Manchester, Clay county, 24 miles, was given last week to the Read Construction Co. of Philadelphia and Hazleton, Pa. The construction company now has its equipment on the way, and within a week several hundred men will be engaged on this railroad, the most important recently started in Eastern Kentucky coal fields.

The line will be completed by July 1, it is expected. For several months work has been proceeding on the Barbourville end, but construction will now be started in various places along the route. The Read Construction Co., which is composed of A. C. Read of Philadelphia and A. A. Read of Hazleton, Pa., has just completed contracts on the Pennsylvania and Lehigh Valley systems.

The Cumberland & Manchester Railroad will open for development a very large field of bituminous and cannel coal, and will make 1,000,000,000 feet of hardwood timber available to market. Chas. F. Heidrick

of Brookville, Pa., is president. The line will be a feeder to the Louisville & Nashville Railroad, but has no affiliation with that system.

Two important extensions are now in course of construction in the Harlan county coal fields of Southeastern Kentucky, both of which will be feeders of the Louisville & Nashville. A large boundary of land in the Clover Fork district will be opened by the new lines. A number of coal-mining plants are now being installed.

The coal tonnage of Southeastern Kentucky mines has shown a great increase during the past few weeks, it being stated that more traffic is now being handled over the Cumberland Valley division of the Louisville & Nashville Railroad than ever before. All mining plants are operating full time in contrast to early in the year, when few plants were operating more than two and three days each week. A scarcity of coal cars is the only retarding factor, and some plants are experiencing difficulty in getting their production on the market. A shortage of labor is also being felt. Prices have shown a distinct improvement, both in domestic and steam grades.

Eastern Kentucky and Northern Tennessee petroleum fields are now in the most active period of development since oil was first found in profitable quantities. The reason is the upward trend of crude oil prices during the past few weeks, and also the opening of new and prolific extensions of the older producing areas. The better grade of Kentucky petroleum now commands \$1.42 per barrel, a total advance of 62 cents within the past three months.

The fields of Wayne, Wolfe, Lawrence, Morgan, Estill and Allen counties, in Kentucky, and of Scott county, Tennessee, contain this month 40 drilling rigs, three times as many as were in operation at the beginning of the summer season. A field in Scott county gives promise of developing into one of the most productive districts in either State.

An independent refinery is proposed by Allen county operators, to be located at Scottsville or Petroleum towns within a short distance of the developments. Remoteness from a market has retarded developments in that district, there being no convenient way to market the production of the field. W. S. HUNSON.

ATLANTIC COAST LINE'S GROWTH.

Many New Industries Established and Settlers Gained—Important Improvements Made.

Along the various routes of the Atlantic Coast Line during the company's year ended June 30 there were established 315 new industries, including mills and factories, and 153 industrial side-tracks were constructed, some of them to sundry of these new operations and others to enterprises which previously existed. There were also located on the lines 3084 heads of families engaged either in farming or other industrial pursuits, an increase of 171 over the preceding year. It is stated that the agricultural and immigration department of the system has been unremitting in its efforts to induce an intelligent and progressive class of immigrants to settle along the road. It has also conducted an active and enlightening campaign to acquaint farmers generally with the advantages to be derived from the methods of up-to-date agricultural practice and also to demonstrate all the possibilities of soil and climate with a view to obtaining the best and largest yields of all kinds of produce. Reference is made particularly to the existence of an active interest in stock raising and dairy farming, and efforts to encourage such industries will be continued with energy.

Among the construction mentioned in the report is the new steel bridge which is being erected over the Hillsboro River at Tampa, Fla. It is expected that this will be completed next month. It is 573 feet long, with a single leaf Scherzer lift span over an opening of 119 feet. The substructure is of concrete.

At Wilmington, N. C., a six-story building of reinforced concrete, and also of fireproof construction, was finished and is used for the storage of records. The rebuilding of the interior of the old office buildings with the same kind of construction was finished in September. At Savannah a large frame warehouse was erected to replace two fertilizer storage warehouses which were burned, and at Jacksonville the reconstruction of the export terminal frame warehouse was also finished. It

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had been damaged by fire. At Wilmington the planing mill of the company's shops, which was burned, was rebuilt. At Florence, S. C., new improvements were made consisting of a 23-stall roundhouse, a boiler washing plant, a planing mill, a smith shop and other buildings.

There was completed and put in operation about 62 miles of second track between Selma and Parkton, N. C., this making the main line continuously of double track from Richmond, Va., to Parkton, 226 miles. In this improvement all crossings of waterways for both tracks were built of concrete and steel. At various points wooden trestles were replaced with earth embankments, drainage being provided through either pipe or concrete culverts, the total length of this kind of work being 11,478 feet. This policy of replacing trestles with earth instead of making general repairs to such wooden structures is being continued elsewhere. Automatic block signals are in use on 317½ miles of line.

The income account of the company shows that the total operating revenues for the year were \$31,536,474.88, decrease as compared with 1914, \$5,296,304.69; operating expenses and taxes \$24,493,313.98, decrease \$3,279,932.98; net operating revenues less taxes \$7,043,160.90, decrease \$2,016,371.71; balance after deducting uncollectible railway revenue \$7,029,114.16, decrease \$2,020,778.44; gross income \$10,333,861.37, decrease \$2,772,073.44; net income after interest and rentals (\$5,723,000.26) and miscellaneous deductions from income (\$309,324.95) \$4,300,936.16, decrease \$3,028,613.9. Dividends were paid as follows: 5 per cent. to preferred stockholders, \$9835; 5 per cent. to common stockholders, \$3,427,900.

The total assets of the company as shown by the comparative general balance sheet are \$259,287,048.92.

Frisco's Annual Report and Plan of Reorganization.

James W. Lusk, W. C. Nixon and W. B. Biddle, receivers of the St. Louis & San Francisco Railroad, have issued the nineteenth annual report of the system, which they say is published to preserve the continuity of the annual records for comparative purposes as well as for the information of all concerned. The report covers the fiscal year ended June 30, 1915, and the statement of results of operation show operating revenue \$42,974,727.1, decrease as compared with the preceding year \$1,948,995.98, or 4.3 per cent.; operating expenses \$29,830,038.41, decrease \$3,431,561.17, or 10.3 per cent.; net operating revenue \$13,135,534.30, increase \$1,482,365.19, or 12.7 per cent.; balance after taxes and uncollectible railway revenue (the taxes amounting to \$2,016,765.71, a decrease of \$132,509.53), \$11,098,024.05; total income \$11,670,766.75, increase \$1,417,101.54, or 13.8 per cent. After interest and rentals and sinking fund appropriations there is shown a deficit of \$397,808.62. It is noted that the aggregate of interest and rentals and of sinking fund appropriations, \$12,068,575.37, includes \$6,828,394.08, being a year's accrued interest on several classes of bonds which was not actually paid.

The condensed general balance-sheet shows the total assets of the company to be \$423,419,362.36, increase \$2,331,836.67. The investment in road and equipment is \$284,456,857.51.

The reorganization committee's plan as announced provides that the company shall take over all the old mileage excepting the lines of the New Orleans, Texas & Mexico Railroad and the Chicago & Eastern Illinois Railroad. New bonds are to be issued thus: Prior lien mortgage, \$93,398,500, Series A, 4 per cent., due 1950; \$25,000,000 Series B, 5 per cent., due 1950; the former redeemable at par and interest and the latter at 105 and interest; cumulative adjustment mortgage, \$40,547,818 6 per cent., redeemable at par and interest; non-convertible income mortgage, \$38,661,200 5 per cent., non-cumulative, redeemable at par. The following stock will also be issued: \$53,000,000 common, \$7,000,000 6 per cent. preferred.

The distribution of securities will be as follows: St. Louis & San Francisco 4 per cent. refunding bonds, 75 per cent. in prior lien 4 per cents, interest dating from July 1, 1915; 25 per cent. in 6 per cent. cumulative adjustment mortgage bonds, with interest from same date and cash for overdue interest on the old bonds, with interest also on the overdue coupons. St. Louis & San Francisco general lien 5 per cent. 15-20-year bonds will receive 25 per cent. in new prior lien 4 per cents, 28½ per cent. in cumulative adjustment 6 per cents, 55 per cent. in convertible 5 per cent. non-cumulative income

mortgage bonds, interest beginning July 1, 1915, cash for overdue interest on old bonds maturing in May and November, 1914, with interest from then until date for payment is set. Old first preferred stock, second preferred stock and common stock will be allowed to participate in the reorganization upon payment of \$50 per share of old stock. Holders of first preferred would thus receive \$50 in prior lien 5 per cents (or cash at \$5 in lieu thereof) and \$125 new common stock. Holders of second preferred would receive the same in bonds and \$105 in new common. Holders of common would receive the same in bonds and \$85 in new common. The purchasing syndicate which will provide the cash required will have the option of crediting \$42.50 on account of the \$50 payment (this being 85 per cent.), instead of delivering the prior lien bonds. In this case only \$7.50 per share would be paid by holders of old stock, who would receive the new stock as described, but on depositing the stock \$5 of the \$7.50 per share must be paid.

Offers will be made to refund all the underlying bonds excepting \$54,813,670 Kansas City, Fort Scott & Memphis Railway bonds, \$9,484,000 5 and 6 per cent. general mortgage bonds of the St. Louis & San Francisco Railroad and \$5,306,000 of the latter's equipment trust obligations maturing after July 1, 1917, for which two latter issues prior lien bonds will be reserved and substituted at maturity.

J. & W. Seligman & Co. and Speyer & Co. will be reorganization managers.

Earnings of B. & O. System.

The Baltimore & Ohio Railroad Co.'s statement of earnings and expenses for October shows operating revenue \$10,004,431, increase as compared with the same month of last year \$2,048,737; total operating expenses \$6,843,889, increase \$846,225 net operating revenue \$3,160,542, increase \$1,202,512. Transportation expenses decreased \$130,109, the principal increases being in maintenance of way and structures (\$279,069) and maintenance of equipment (\$653,098).

The statement for the first four months of the current fiscal year shows operating revenue \$37,641,860, increase as compared with the same period of last year \$4,056,770; total operating expenses \$24,816,224, increase \$862,633; net operating revenue \$12,825,636, increase \$3,194,137. Maintenance of way and structures increased \$609,013 and maintenance of equipment \$1,246,193, but transportation expenses decreased \$1,138,926.

F. B. Grier Elected President of the Charleston & Western Carolina.

At the recent meeting of the directors of the Charleston & Western Carolina Railway Co. at Charleston, S. C., President J. B. Cleveland of Spartanburg, S. C., who has been at the head of the road for years, declined a re-election and F. B. Grier of Greenwood, S. C., general solicitor of the company, was elected to succeed him. A. W. Anderson of Augusta was elected second vice-president and general manager, the vice-presidency being in addition to the general managership, which he has held for some time.

Rock Island System's Report.

J. M. Dickinson and H. U. Mudge, receivers for the Chicago, Rock Island & Pacific Railway, have issued a report covering the operations of the road during its fiscal year which ended June 30, 1915. It shows railway operating revenue \$70,947,889, increase \$2,272,047; railway operating expenses \$53,521,615, increase \$1,885,794; net railway operating revenue \$17,426,274, increase \$386,253; total railway operating income after deducting railway tax accruals and uncollectible railway revenue (the latter being only \$32,460) \$14,039,894, increase \$336,142; total income \$15,407,811, decrease \$132,150; balance after deductions, none, there being instead a deficit of \$734,676; decrease of \$1,185,298, the deductions from income having increased \$1,053,147 as compared with last year.

There was increase of \$3,243,220 in the freight revenue of the railway, this being due to the increased shipments of wheat, which totaled over 75,000,000 bushels.

The movement of wheat was nearly three times as much as the average for the preceding eight years, and, the export movement being very large, the road enjoyed the advantages of a long haul.

New manufacturing and commercial industries were established on the lines during the year to the number of 109, the total number of employees being 1633. The capital investment was \$3,016,250.

The total assets of the railroad as shown in the general balance-sheet are \$356,655,457, the valuation of the road and equipment being included at \$319,565,234.

Bought by Its Bondholders.

The New Orleans, Texas & Mexico Railroad was bought in by the bondholders for \$6,000,000 at the sale last week in New Orleans, the committee being represented by Carl A. de Gersdorff and W. M. Taylor, attorney, both of New York. D. B. H. Chaffee, special master, conducted the sale. It is proposed to reorganize the property under the same name excepting that "railway" instead of "railroad" will appear in the title. The line extends from New Orleans to Houston, Tex., 368 miles. It has 40 locomotives and 1438 cars. Details concerning the reorganization are yet to be arranged. The New York Trust Co. is trustee for the bonds.

Atlantic Coast Line Officials.

The Atlantic Coast Line announces the election of P. R. Albright to be general manager to succeed W. N. Royall, who resigned on account of ill-health. The following ensuing appointments are likewise made public: J. N. Brand, assistant general manager at Wilmington, N. C.; J. C. Murchison, general superintendent at Jacksonville, Fla.; J. P. Walker, superintendent, Charleston, S. C.; T. W. Hansell, superintendent, Sanford, Fla.

New Equipment, Etc.

Pennsylvania Railroad has ordered for its Western Lines 48 locomotives from the American Locomotive Co., New York, and 15 from the Lima (O.) Locomotive Corporation. They will be of the Pennsylvania's heavy type known as Class H-10-S.

Virginian Railway is in the market for a Mallet type locomotive as well as 250 box car bodies of 40 tons capacity.

Western Maryland Railway will soon receive the first of 15 Mallet locomotives ordered several months ago from the Lima Locomotive Corporation.

Missouri, Kansas & Texas Railway has ordered 5 Mallet locomotives of the 2-6-6-2 type, with superheaters, from the American Locomotive Co. Each will weigh in working order 272,000 pounds. These engines will have, it is stated, 73-inch-diameter driving wheels and cylinders of 25x28 inches.

Georgia Southern & Florida Railway has filed at Macon a contract for \$535,000 of new equipment, which covers 2 10-wheel passenger locomotives 2 steel baggage cars, 130 steel drop-bottom 40-ton gondola coal cars and 375 steel underframe ventilated 30-ton box cars.

Illinois Central Railroad is reported in the market for 40 air dump cars.

Southern Railway has ordered 450 tons of bridge steel.

Chesapeake & Ohio Railway has ordered 700 tons of structural steel from the Mt. Vernon Bridge Co.

Birmingham Southern Railway has ordered a consolidation locomotive and 2 switching locomotives from the American Locomotive Co. All will have superheaters.

Chesapeake & Ohio Railway is reported to have ordered from the Standard Steel Car Co. 1000 70-ton coal cars, making the total ordered now 2000, the other contracts going to the Cambria Steel Co. It is also expected to purchase 10 express cars.

Chicago, Burlington & Quincy Railroad is getting prices on 8 dining cars, 5 mail cars, 15 chair cars, 9 combination passenger and baggage cars and 17 ordinary passenger cars, two of the latter to have smoking compartments.

Chicago, Rock Island & Pacific Railway has ordered its 40,000 tons of rails from the Illinois Steel Co., Chicago, for next year's delivery. They will be of 90 and 100 pounds weight per yard.

Good Roads and Streets

SOUTHERN HIGHWAY ACTIVITIES.

Bonds Voted.

Bellevue, P. O. at Newport, Ky.—City voted \$23,000 bonds to reconstruct Taylor avenue.

Clearwater, Fla.—Pinellas county voted \$715,000 bonds to construct 73.34 miles of brick road.

Danbury, N. C.—Stokes county, Yadkin township, voted \$50,000 bonds to construct roads.

Elizabethtown, N. C.—Bladen county, Bladenboro township voted \$25,000 bonds to construct roads.

Bonds to Be Voted.

Camden, Ala.—City will vote December 6 on \$4250 bonds for street improvements.

Fort Lauderdale, Fla.—Broward county votes December 11 on \$165,000 bonds to construct roads, etc.

Georgetown, Ky.—Scott county votes January 15 on \$100,000 bonds to improve roads.

Jonesboro, Tenn.—Washington county votes December 18 on \$425,000 bonds to construct roads.

Contracts Awarded.

Amite, La.—Tangipahoa parish awarded contract to construct 40,000 cubic yards of sand-clay roads; \$12,000 available.

Baltimore, Md.—City awarded \$9724 contract for top soiling of park spaces.

Eagle Lake, Tex.—City awarded contracts for street improvements to cost \$15,000.

Greenville, Ky.—Muhlenberg county awarded contract for 4 miles of roads to cost \$25,000.

Georgetown, Tex.—Williamson county awarded a \$114,000 contract for constructing 55 miles of gravel and macadam road.

Houston, Tex.—City awarded contract for rock-asphalt paving to cost \$4500.

Kountze, Tex.—Hardin county awarded contract for shell road to cost \$75,000.

Lebanon, Ky.—Marion county awarded \$28,500 contract for road improvements.

Longview, Tex.—Gregg county awarded contract for 35 miles of gravel, sand-clay and stone roads.

Monroe, La.—City awarded \$40,000 contract for gravel and tarvia paving.

Okmulgee, Okla.—City awarded \$69,852.92 contract for paving curbs, gutters etc., Street Improvement No. 7.

Oklahoma City, Okla.—City awarded \$29,496.43 paving contract.

Sarasota, Fla.—City awarded contract for 1½ miles of paving and 3 miles of curb and gutter; asphaltic concrete on concrete base.

Contracts to Be Awarded.

Albany, Ky.—Clinton county receives bids until November 30 to construct 3 miles of macadam road.

Beaumont, Tex.—City is considering revised plan for street paving, 90,000 square yards, estimated to cost \$303,000.

Birmingham, Ala.—City will construct asphaltic concrete paving estimated to cost \$6400.

Birmingham, Ala.—City will construct 7000 square yards of concrete sidewalks; cost about \$5500.

Clarksville, Tex.—Red River county receives bids until December 9 for constructing roads and bridges estimated to cost \$300,000.

Sedalia, Mo.—City will award contract on December 6 for vertical fiber brick paving with asphalt filler, estimated to cost \$16,000.

The High Cost to Farmers of the Country's Bad Roads.

Washington, D. C., November 23.

It is pointed out by the American Highway Association that before the war in Europe affected the rates at sea it cost the American farmer more to haul a bushel of wheat 9½ miles to the railroad station for shipment than it cost the buyer to ship the same bushel of wheat

from New York to Liverpool, a distance of 3000 miles. The average cost of hauling a ton of farm produce or a ton of anything else over the average country road is about 23 cents a mile; 70 years ago the cost of the same service was 17 cents. The cost of hauling over the railroads is less now than one-ninth as much as it was 60 years ago. The cost of hauling by railroad has almost reached the vanishing point; the cost of hauling on the country roads has gone up as the roads have gone down.

By careful calculation, Logan Waller Page, director of the United States Office of Public Roads, has reached the conclusion that with wise and equitable road laws and good business management it would be entirely practicable for the people to save themselves on the two items of hauling and administration the enormous sum of \$290,000,000 yearly. The railroads in the United States carry about 900,000,000 tons of freight annually, and of this vast tonnage, at least 200,000,000 tons are hauled over the country roads to the railroad station or to the canals for shipment. The immense volume of mining products, aggregating millions of tons, is not included in this estimate, but only the agricultural, forest and miscellaneous products hauled by wagon over the public roads, nor is the cost of hauling back and forth between the farms and the mills. It is an underestimate rather than an overestimate to place the cost of hauling over the country roads at \$500,000,000 yearly, and no other business but the business of farming could stand such a strain without bankruptcy.

The main cause of agricultural distress is not so much the wages of the workers or the infertility of the soil or the prices of the products, but the enormous drain of getting the stuff to market, the waste of the roads in the wear and tear of machinery, the sacrifice of teams, the inefficiency of service compelled by impassable highways. Tributary to every market town or railroad station there are what Mr. Page calls "zones of production." From the first of these zones all products can be delivered to market at a profit, and from the rest one class of products after another must be eliminated because of the prohibitive cost of hauling; and beyond lie vast territories that cannot be cultivated without the building and constant maintenance of roads suited to whatever traffic there may be developed. It has been demonstrated that as the roads from the market towns have been improved there has been a great increase of their business and a corresponding improvement in the condition and opportunities of the rural population, larger prosperity of the individual farmer, greater traffic for the railroads, better supplies and lower prices for the consumer. It does not pay to raise crops that cannot be marketed readily and cheaply. Millions of dollars' worth of field and orchard crops have been utterly wasted because of expensive and inadequate facilities for marketing. This is one of the hard problems with which the United States Department of Agriculture is trying to deal through the greatest experts in the land, and they have found that the building of good roads is essential to the success of their plans.

There are over 400,000,000 acres of uncultivated land in the United States that cannot be developed without improved highways. It has been shown that the value of land is increased evenly with the improvement of the roads, the increase running from \$2 to \$9 the acre. As the roads are improved there is a corresponding increase in population. In 25 counties, taken at random, which have contained on an average only 1½ per cent. of improved roads in the decade of 1890 to 1900, there was a falling off in population of 3000 in each county. In 25 other counties, taken at random, in which there was an average of 40 per cent. of improved roads, the increase of population in each county was 31,000. The "back-to-the-farm" movement will progress just in proportion to the improvement of the highways, and the improvement of the highways is dependent upon administration not less than upon construction.

There must be skill in the supervision as well as in the building of the roads. Heretofore at least nine-tenths of the work on the roads has been done under the direction of men without any knowledge of road-building, which is an art based upon a science. There are today more than 100,000 petty road officials in the United States who have no practical knowledge of the simplest engineering problems that must be solved in the location of the roads, in their relation to a general system or to related systems, but who are supposed to

have great influence in neighborhood politics and are mighty at the polls. It is from this incubus that the problem must be relieved if the country is to enjoy the benefits of a well-ordered system of highways.

Good roads not only cost a great deal of money in their construction, but also in their maintenance or administration. It has been the habit in this country to "work on the roads" when all other work was done, and this has meant that the roads have had attention only once or twice a year. Macadam roads do not take care of themselves, concrete roads should have constant attention, sand-clay roads require daily supervision if they are to give service for which they were designed and built. In France every mile of road is inspected daily, and it is the constant vigilance of trained supervision that enables the railroads of the country to take care of the business of the country. There ought to be the same sort and degree of supervision of the roads of the United States if they are to give the service for which they are built. To make a mile of macadam road eight feet wide and eight inches thick, 1750 tons of stone are required, and to build a mile of gravel road eight feet wide and eight inches thick 1142.93 cubic yards of compacted or 1564 cubic yards of loose gravel are required, and in order that the best results may be obtained there must be competent supervision not only in the mixing of the materials employed in the building of the roads of the several types, but in the placing of materials.

There are 2,000,000 miles of what are commonly called "dirt roads" in the United States, and to make them effective there must be proper drainage, such grading and alignment as will make them fit for the traffic and constant surface betterment, and it is nothing short of criminal waste to build roads of macadam and expect them to take care of themselves. "Undoubtedly the best system of maintenance for all roads," says the American Highway Association, "is that which provides for the permanent and sometimes continuous employment of skilled laborers who have charge of particular sections of road, or who may be assigned to any part of the county or other road unit where there is work most needed."

Jefferson Highway Proposed to Connect New Orleans and Winnipeg.

New Orleans, La., November 18.—[Special].—Plans to construct the Jefferson Highway from New Orleans to Winnipeg, Canada, were launched at the organization meeting of the Jefferson Highway Association here November 15 and 16. E. T. Meredith, editor of "Successful Farming," Des Moines, Iowa, was named chairman of the organization which is to push construction of the highway.

According to the tentative plan, subject to revision, the road will connect New Orleans, Baton Rouge, Shreveport, La.; Denison, Tex.; Muskogee, Okla.; Joplin, Kansas City and St. Joseph, Mo.; Des Moines, Iowa; St. Paul and Minneapolis, Minn., and Winnipeg, Canada.

State vice-presidents and directors were elected as follows:

Louisiana—Lucien E. Lyons, Jr., vice-president; W. E. Atkinson, J. T. Bullen and Alec Grouchy, directors.

Oklahoma—Dr. Oliver Bagby, vice-president; B. N. Fink, R. W. Dick and W. F. Dodd, directors.

Arkansas—S. M. Dicky, vice-president; George D. Locke, J. M. Putnam and George Single, directors.

Kansas—R. S. Tiernan, vice-president; A. H. Shafter, Marion Coulter and Paul Russell, directors.

Nebraska—R. K. Brown, vice-president; Clark G. Powell, E. B. Parish and Robert H. Manley, directors.

Missouri—John H. Malang, vice-president; E. J. King, George E. McIninch and W. B. Scruggs, directors.

Iowa—H. H. Polk, vice-president; W. A. Hopkins, H. B. Shepard and E. C. Harlan, directors.

Minnesota—J. H. Beck, vice-president; Herman Bee, Henry H. Orme and Thomas E. Cashman, directors.

South Dakota—H. F. Brownell, vice-president; H. B. Harlan, Walter M. Cheever and N. O. Mouserude, directors.

Texas—W. N. King, vice-president; W. N. Harrison, E. C. Bracken and B. K. Coughlan, directors.

D. N. Fink, president of the Muskogee Bank, was elected vice-president of the association; Edward F. Swinney, president of the First National Bank of Kansas City, treasurer, and Walter Parker, secretary of the New Orleans Association of Commerce, general secretary.

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MECHANICAL

Illustrations and descriptions having news value pertaining to developments in machinery, mechanical devices and inventions will be considered for use in this department.

Improved Picker-Nozzle for Pneumatic Cotton Harvester.

For over 25 years W. K. Dana, treasurer of the Dana Warp Mills, Westbrook, Me., has been experimenting and developing cotton-picking machines. With the knowledge gained from these experiments he has been enabled to perfect a patented vacuum-head picking-nozzle which is designed to solve the problem of picking cotton by machinery. This nozzle is made especially for a machine of his own design, but it can also be used on other types of pneumatic cotton harvesters.

As shown in the accompanying illustration, the Dana pneumatic cotton picker consists of a small internal combustion engine connected to a fan for creating the vacuum necessary to operate several picking tubes, all mounted on a light, four-wheel truck.

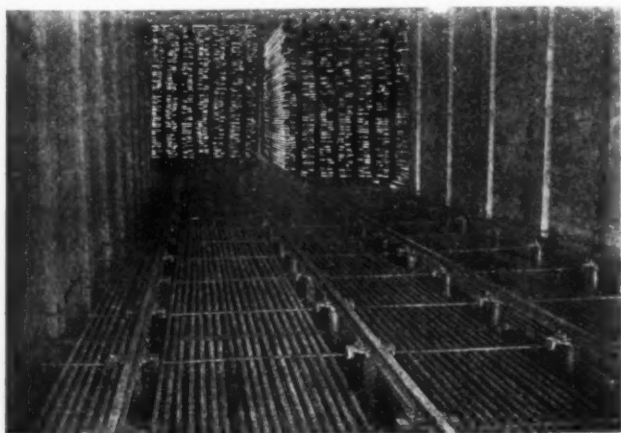
Rotary picking tubes, equipped with especially-designed vacuum-head nozzle, through which the air and cotton pass, form the chief features of the invention. This head includes a cylindrical casing and an independently rotating picking tube within the casing with inclined blades on its inner surface and picking teeth at its outer end. The inrushing air rotates the picking tube and causes the teeth to engage the fiber of the cotton, twisting it, and causing it to free itself from the boll. The fiber is then drawn inwardly through the picking tube and so on through the suction pipe. By fixing abutments around the mouth of the picking nozzle the boll is held in place and kept from entering the tube.

In operation, the nozzle is connected to the end of one suction hose and held in the hand, and by bringing the nozzle in contact with the cotton the cotton is picked and delivered in a bag at the machine. The rotating teeth seize the cotton fibers, which are drawn in by suction, and by twisting the mass of cotton enable it to be freed readily from the boll.

Mr. Dana reports that a number of the machines will be built and ready for use next season.

A Progressive Southern Concern.

Expansion of the L. Moore Drykiln Co. of Jacksonville, Fla., which entered its new home last August, was necessitated by the steady increase to be expected from the growing popularity of its products. For 36 years



INSIDE VIEW OF KILN, SHOWING MOORE'S HEATING APPARATUS AND STEEL FOUNDATION.

its president, L. Moore, has been building drykilns in the South, and the success of the Moore moist air drykiln and other Moore equipment is attributed to his

long experience gained from the study of lumber-drying requirements.

Commenting on the growth of the L. Moore Drykiln Co., Charles J. Williams, Jr., its vice-president, gives experiences probably encountered by every Southern manufacturer when he says that years ago a great many mills, especially where new territory was entered, were prejudiced against a Southern manufacturer because they had the idea that in order to get something good it should come from the North or elsewhere. This prejudice has been gradually overcome, and he reports his company as not only building kilns throughout the South, but filling orders in the North and Northwest. The success achieved by his company is the result of untiring energy in studying the individual needs of its customers, enabling them

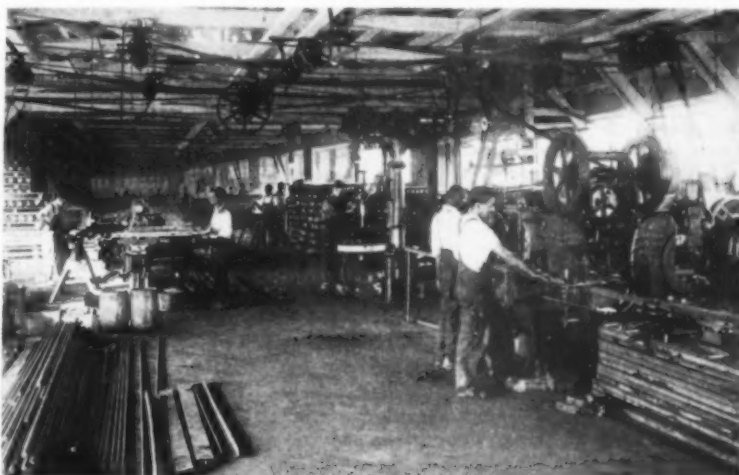
to secure equipment giving the highest possible economy and efficiency.

To keep pace with the necessary improvements caused by the increasing demands made on lumber manufacturing machinery, the Moore company has from time to time enlarged and perfected its facilities. The latest of these improvements is a new electrically-driven shop, containing modern machinery, ensuring added efficiency in the manufacture of all kinds of drykiln equipment.

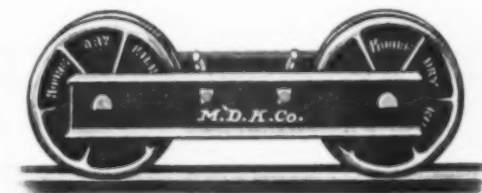
Moore's moist air drykilns, the essential product manufactured by the company, were developed to extract the moisture without checking or case-hardening the stock. The old way of drying lumber was to place it in the sun, but lumber thus dried would weather-stain, besides the stock would sometimes warp, and it would take from six months to a year to dry. With the

Moore process, pine lumber is claimed to be dried in from two to three days, while hardwood lumber can be dried in four to eight days.

As a great many mills are stacking their boards for storage on drykiln trucks, instead of stacking and re-handling in the stock sheds, the company has added a



NEW SHOP OF L. MOORE DRYKILN CO.



END-PIILING TRUCK. TWO FEET LONG, WITH TEN-INCH MALLEABLE WHEELS.

piling trucks with malleable stake sockets for eye-beam or wood stakes are also manufactured. The L. Moore Drykiln Co. furnishes special drykiln pipe, steel rails, steam traps, extra truck parts, and, in fact, everything used around drykilns.

Will Build Dyehouse Addition.

Aycock Hosiery Mills, South Pittsburg, Tenn., will build a 50x40-foot dyehouse addition of concrete brick construction, and has let the contract to E. H. Crumbliss. Hosiery dyeing machinery will be installed.



CROSS-PIILING TRUCK. MADE OF FIVE-INCH CHANNEL SIDES AND EIGHT-INCH WHEELS.

FOREIGN NEEDS

Machinery and equipment wanted abroad are mentioned in many letters received by the MANUFACTURERS RECORD, which is so widely read in foreign countries that we are in constant receipt of many letters from all parts of the world. For the benefit of our subscribers seeking foreign trade we publish the following extracts from recent letters:

Aluminum, Nickel, Steel, Etc.

G. A. Terracini, Genoa, Italy:

"Mention that the writer is soliciting cable offers for large quantities of nickel in sheets, aluminum knotted bars, tool steel (best on the market) and tungsten for steel. The outlook for selling American goods in our community is brighter than ever, but what will be more interesting is the establishing of a steady interchange of business relations for the coming time after the war. It is as yet too early to say which line will be more convenient, and with your permission I will come back on the matter later on, when the clearing up of the situation will permit me to form a better idea of what will be best in both my interest and the one of the parties who might desire making definite connection for the handling of their products in this country."

Dyes, Lathes, Tools, Etc.

Emile Cauwes, 4 Rue de Trevis, Paris, France:

"I have two departments, one chemical products and aniline and direct colors for calico printing, wool and cotton dyes; the other department is for tools; lathes, all new specialties, would interest me the most. I have a good business connection and a good organization, subagents all over this country. My clients are good payers, either cash or on 30 days' or 60 days' draft. We want to act as agent on commission, partly responsible for the orders if necessary. I have a good standing on the market, and can render good services to the best firms. Great demands are made actually in all classes of goods, and as soon as the war is over the business will be very much more active. American manufacturers must understand the way how business is treated over here; in normal times payments are made at 30 days' or 60 days' draft, with discounts of 5 to 10 per cent., according to the articles, and for cash 2½ per cent. extra. I would very much like to be the sole agent or representative of an important house, working especially for them in France, with salaries and commission and office expenses paid. From my recent experiment I have come to the conclusion that it pays better to have a business manager to work solely for one house. I speak English thoroughly, having lived in England 12 years and traveled 10 years in the States for my account. I can, if necessary, go over at any time if expenses are paid to me."

Flour, Coffee, Clothing, Shoes, Leather, Etc.

Alexis & Gagahakis, La Canea (Crete), Greece:

"Following articles interest us, and would be much obliged if you would give us sole agencies for Greece: In flour in bags of 110 (110 pounds), rice, woollen and cotton stuff for gentlemen and ladies' wear, underwear, woolen and cotton; hosiery yarn, red yarn, twisted and untwisted; box calf for shoes, sheep skins of different colors; kid, glazed, and all kinds of leathers for shoemakers; sole leather, leather for shoe soles, handkerchiefs, Cabot in pieces of 40-yard common white plates, water glasses, Rio coffee in bags, alarm clocks. American factories must give prices c. i. f. Canea. This is easy for them, as they can ask information about the freight from the National Steamship Co. of Greece, agency at New York, who have regular sailings from New York to Canea once a week."

Card Steel Wire and Chemicals.

Alfredo Vital, Consejo de Ciento 356, Barcelona, Spain:

"I am interested in some lines of American manufacture, especially in card steel wire, for which I could secure orders for 1,000 to 20,000 kilos. I have applied

to some concerns of the States. Our card manufacturers are receiving all wire from England, but the manufacturers are so overwhelmed with orders that they are slow in delivering. Our card manufacturing mills are handicapped, and unless they can receive wire from another source and in deliveries sufficiently important they will be compelled to shut down their mills. It would be my desire to get in touch with some concern of your country capable of making me offers in this wire. For any orders I might send a banker's credit would be opened in New York for payment against delivery of the shipping documents. In addition to the above, all kinds of chemical products are salable, and any offers in these lines would be welcome.

"References—Philadelphia Commercial Museum, Philadelphia; National Association of Manufacturers, New York; Rheinberg & Co., 32 Snow Hill, London."

Agricultural Implements, Wire, Razors, Etc.

Edgar Franklin & Co., 62 Basinghall street, London, England:

"Bring us in touch with agricultural implement manufacturers. Can do with a large quantity of black bone-handled razors to cost about 7s. per dozen landed here. Barbed wire painted, also galvanized. All wool and part wool socks, gray, principally, and agencies for any other lines formerly supplied by Germany. Put us in touch also with a maker of plain galvanized wire not barbed."

Garter Web and Suspender Machinery.

Tateish Trading Co., No. 7 Minami-Daikicho, Kio-bashi-Ku, Tokyo, Japan:

"Notify manufacturers of machinery to send us catalogue and work sample pieces for garter web and suspender webbings; able to produce the enclosed kinds. Please notify them to render us best prices, stating trade and cash discount."

Wants American Hardware.

N. Kaisermann, No. 25 Uzine street, Jassy, Roumania:

"Send me the addresses of American manufacturers making padlocks and other kinds of locks and small hardware for building purposes, together with their illustrated catalogues, prices and terms for delivery in Roumania."

Citrate of Lime and Citric Acid Plants.

E. N. Hutton, P. O. Box 282, San Juan, Porto Rico:

"I wish to get in communication with manufacturers of machinery necessary for complete citrate of lime and citric acid works; said products to be made from lime and other citrus fruits."

The Cotton Movement.

In his report of November 19 Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, shows that the amount of cotton brought into sight during 111 days of the present season was 4,830,491 bales, an increase over the same period last year of 441,379 bales. The exports were 1,666,426 bales, an increase over last year of 663,515 bales. The takings were, by Northern spinners, 758,282 bales, an increase of 6860 bales; by Southern spinners, 1,104,487 bales, an increase of 243,353 bales.

Von Hindenburg or Copper?

There is a story of one German attempt at smuggling which is amusing. It has been reported on good authority that Germany at one time ordered in Sweden several hundred thousand copper busts of Von Hindenburg for early delivery. The Englishmen did not like this. They did not object to Germany honoring the great hero by placing a statuette of him in every home in the Fatherland if she chose, but they did insist that if the statuettes were to come from Sweden they would have to be of wood, papier-mache or some other innocuous substance—but not, not of copper.—The World's Work for December.

TEXTILES

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Correspondence relating to textile matters, especially in the cotton-mill interests of the South, and items of news about new mills or enlargements, special contracts for goods, market conditions, etc., are invited by the MANUFACTURERS RECORD. We shall be glad to have such matters at all times, and also to have any general discussion relating to cotton matters.

For a \$250,000 Yarn Mill.

Plans are being formulated for the construction of a \$250,000 cotton-yarn mill at Chattanooga. This plant is to spin Sea Island and lisle yarn, from 200 to 230 operatives to be employed. It is proposed by G. H. Miller (recently mentioned as interested in an enterprise of this character) and John Staigmaier of Chattanooga, Albert G. Thatcher of Philadelphia, president of the Coosa Manufacturing Co., yarn manufacturer at Piedmont, Ala., and Alfred Thatcher, manager of the Standard Processing Co., mercerized, at Ridgedale, near Chattanooga.

11,000 Additional Spindles and Looms.

An additional installation of about 11,000 spindles and accompanying looms has been decided upon by the Monarch Cotton Mills of Union, S. C. This increase will complete the company's equipment of about 80,000 spindles and 1826 looms. It will be undertaken at once and will provide for several hundred additional operatives. Contract for building 40 cottages for these operatives has been awarded to E. B. Cheshire of Union.

Textile Notes.

W. M. Dobson, Wedowee, Ala., may install plant for manufacturing knit goods, and is now preparing to buy the necessary machinery.

Bladenboro (N. C.) Cotton Mills will install new additional machinery costing \$50,000, and the contract has been awarded.

Waterways' Part in Defense Plans.

Waterways as a means of National Defense will be a keynote struck at the next convention of the National Rivers and Harbors Congress, which meets in Washington, D. C., December 8, 9, and 10. It is planned to hold a great convention as a strong protest against the attacks made recently upon waterway appropriations. "The proper improvement of the nation's worthy water-courses" will be the battle cry.

Among the prominent men who will address the organization will be Governor Edward F. Dunne of Illinois, whose subject is "The Illinois Waterway." The West's interest in waterways will be championed by the new Senator from California, Hon. James B. Phelan. The Missouri River, which was so caustically criticized by ex-Senator Burton, will be the subject of an address by Senator Reed of Missouri, who will fire the opening broadside in its defense.

Moving pictures, especially prepared for the purpose and showing the work of improving the Mississippi River, will be a novel auxiliary to the address of Congressman Ben Humphreys of Mississippi.

The program will include Mayors Behrman of New Orleans and Preston of Baltimore, President Townsend of the Mississippi River Commission and a representative of the Administration, whose name has not yet been made public.

Contract for Big Addition.

The buildings for the big addition of the Bibb Manufacturing Co. at Columbus, Ga., will be constructed by the T. C. Thompson Company of Greenville, S. C. Contract has been awarded to that company at about \$250,000, and the additional machinery has been ordered, this installation to include 18,000 spindles and accompanying equipment. Plans and specifications are being furnished by the Park A. Dallis Company, Atlanta, recently named as the architect-engineer in charge. The Bibb plant now has 28,000 ring spindles.

Construction Department

IN ORDER TO FOLLOW UP

Properly the Construction Department items, please bear in mind the following statements:

EXPLANATORY

The MANUFACTURERS RECORD seeks to verify the items reported in its Construction Department by full investigation. It is often impossible to do this before the item must be printed or else lose its value as news, and in some items it is found advisable to make statements as "reported" or "rumored," and not as positive information. If our readers will note these points they will see the necessity of the discrimination. We are always glad to have our attention called to errors that may occur.

HOW TO ADDRESS

The name of one or more incorporators of a newly incorporated enterprise should always be written on letter addressed to the official headquarters or to the town of the parties sought, as may be shown in the item. Sometimes a communication merely addressed in the corporate or official name of a newly established company or enterprise cannot be delivered by the postmaster. By following these general directions the postoffice will generally be enabled to deliver your mail promptly, although it is inevitable that some failure by the postal authorities to deliver mail to new concerns will occur, as our reports are often published before new companies are known and before they have any established office for the receipt of mail.

WRITE PERSONAL LETTERS

In communicating with individuals and firms reported in these columns a letter written specifically about the matter reported will receive better and quicker attention than a circular. In most instances a return postal card or addressed and stamped envelope should be enclosed with letter.

In correspondence relating to information published in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

DAILY BULLETIN

The Daily Bulletin of the Manufacturers Record is published every business day in order to give the earliest possible news about new industrial, commercial, building, railroad and financial enterprises organized in the South and Southwest. It is invaluable to manufacturers, contractors, engineers and all others who want to get in touch at the earliest moment with new undertakings, or the enlargement of established enterprises. The subscription price is \$25 per year.

All advertising contracts in the Manufacturers Record for three months or longer include a subscription to the Daily Bulletin for the contract period, as well as a subscription to the Manufacturers Record.

BRIDGES, CULVERTS, VIADUCTS

Ala., New Decatur.—W. B. Edmundson is promoting organization of company to construct toll bridge costing about \$200,000.

Fla., Clearwater.—E. W. Parker, Curry Bldg., and associates secured Government permit to construct 2-mi. bridge from Clearwater to Clearwater Key; standard pile and timber; concrete piers; bridge and 2 mi. of approaches 18 ft. wide; draw span with arch; bridge to have capacity 30-ton locomotive. (Noted in July.)

Fla., Fort Myers.—Lee County Comms., H. A. Hendry, Clerk, let contract McCormick & Moore of Fort Myers for piling and timber bridge work on entire length of road included in Special Road and Bridge Dist. No. 1. (See Road and Street Work.)

Fla., Fort Lauderdale.—Broward county votes Dec. 11 on \$165,000 bonds to construct bridges and roads in special road and bridge district. Address County Comms.

Ga., Savannah.—Chatham County Comms. will construct 4 steel drawbridges in connection with road from Savannah to Tybee Island. (See Road and Street Work.)

Mo., Joplin.—City Com. let contract to Horton Concrete Construction Co., Kansas City, at \$13,890 to construct viaduct on N. Main St.; substructure to consist of 16 concrete pedestals containing about 100 cu. yds.; superstructure to consist of 11 spans varying from 13 ft. to 39 ft., total of 320 ft.; 23 ft. wide; 24-ft. roadway; wood-block floor; spans to be partly reinforced concrete and partly steel encased in concrete; city voted \$12,500 bonds; total cost \$20,000; Kansas City Southern Ry. (C. E. Johnston, Ch. Engr., Kansas City, Mo.) and Joplin Union Depot Co. to contribute to cost; contract does not include entire cost of construction; perpendicular columns to support upper part of bridge, estimated to cost \$3000, to be built additional; Harrington, Howard & Ash, Consult. Engrs., Kansas City, Mo.; J. B. Hodgdon, Commr. of Streets and Public Improvements. (Call for bids lately noted.)

Okla., Chickasha.—Grady county is reported as contemplating election to vote on \$100,000 bridge and road bonds. Address County Comms.

Okla., Duncan.—Stephens County Comms. have plans for 5 small steel girder bridges estimated to cost \$2300; plans approved by W. P. Danford, State Highway Engr., Oklahoma City, Okla.

Tenn., Clinton.—Anderson County Comms. will reconstruct steel bridge over Clinch River on Clinton-Knoxville Pike, washed away by flood while under construction.

Tex., Beaumont.—City let contract J. J. Burk of Lake Charles, La., at \$2200 to construct wooden bridge over Brakes Bayou, connecting with Island Park

Tex., Clarksville.—Red River County Road Dist. No. 1 will receive bids until Dec. 9 to build bridges, culverts, etc., in connection with road construction; Geo. Morrison, County Judge. (See Roads and Street and Machinery Wanted—Road and Bridge Construction.)

Tex., Fort Worth.—Victoria County Comms., Victoria, Tex., approved plan to construct 70-ft. steel bridge across Chicolet Creek on northern boundary line of Victoria and De Witt counties near Fort Worth; estimated cost \$1200, divided between two counties.

Tex., Longview.—Gregg County Comms. let contract to Blodgett Construction Co., Kansas City, Mo., at \$20,000 for steel bridge across Sabine River; D. K. Caldwell, County Engineer.

Va., Norfolk.—Wheeling Development Co., John T. Scott, Prest., Bridgeport, O., plans to construct public driveway bridge across Steamboat Creek. (See Metal-working Plants.)

Va., Pembroke.—Giles County Supvs. appropriated \$400 to construct bridge across New River; total estimated cost \$18,000, part of which will be paid by Norfolk & Western Ry.

CANNING AND PACKING PLANTS

Fla., Bradentown.—Dixie Canning & Preserving Co., W. C. Edminston, Prest., Winter Haven, Fla., will install plant, cost \$7500, to can and preserve citrus fruits; lately noted under Miscellaneous Factories. (See Fla., Winter Haven.)

Fla., Winter Haven.—Dixie Canning & Preserving Co., W. C. Edminston, Prest., is proceeding with construction of \$15,000 plant

to produce canned grapefruit, citrus-fruit marmalades, jellies, candies, etc.; will also erect plant at Bradentown, cost \$7500; install boilers, steam cookers, peeling machines, canning machines, fruit choppers, etc.; contemplates establishing plants in other fruit sections.

COAL MINES AND COKE OVENS

Ky., Glomawr.—East Tennessee Coal Co. is reported as to increase coal-mining capacity.

Ky., Domino.—Himyar Coal Corp. is reported as to open 2 additional coal mines about Jan. 1.

Ky., Harlan.—Banner Fork Coal Co. leased coal property near Harlan and will develop; plans to build mining and industrial town.

Ky., Harlan.—Crech Coal Co. leased coal property near Harlan and will develop; plans to build mining and industrial town.

Ky., Hellier.—Allegheny Coke Co. plans to build additional coke ovens; now has 175 rectangular ovens.

Ky., Lennut.—Blue Grass Coal Co. is reported as to increase coal-mining facilities.

Ky., Lowthair.—Ashless Coal Corp. is reported as to open additional coal mines.

Ky., Lowthair.—Kentucky-Jewel Coal Co. is reported as to open additional coal mines.

Ky., Lowthair.—Jarvis Collins, Bramwell, W. Va., and associates leased 15,000 acres Buffalo Creek coal land for immediate development.

Ky., Louisville.—Cumberland Mountain Coal Corp., capital \$10,000, chartered by Robt. F. Vaughan and Virgil O. Duffin of Louisville, and C. C. Craven of Kalamazoo, Mich.

Mo., Minden Mines.—Swedish Coal Co., capital \$2000, incptd. by Fred Johnson, Anton Anderson and J. W. Larson.

Okla., Guthrie.—Milton Coal Mining Co. (lately noted incptd., capital \$14,000) will develop 25 acres; E. S. Lowther, Prest. and Mgr.; J. E. Woodworth, Secy.

Va., Honaker.—Company organized by F. T. Lee (Prest.), Richard Hancock, O. M. Guggenheimer and C. E. Busey, all of Lynchburg, Va.; purchased Flat Rock Coal Co.'s coal-mining property near Honaker and plans to operate on larger scale.

W. Va., Otsego.—Pocahontas Coal Co., capital \$75,000, incptd. by J. E. Tolver, C. H. Meador, Joe L. Smith and M. L. Painter, all of Beckley, W. Va., and W. E. Griffiths of Wickham, W. Va.

W. Va., Foley.—Stallings Co., capital \$5000, incptd. by L. O. Justice, F. N. Ryan and Weston McCoombs of Foley and E. H. Butts of Logan, W. Va.

CONCRETE AND CEMENT PLANTS

Tenn., Morristown.—Concrete Blocks and Silos.—J. B. Willis Mfg. will erect plant to manufacture concrete blocks and silos.

Ga., Gore.—Portland Cement.—H. H. Shackleton of Rome & Northern R. R. is reported as negotiating with Northern capitalists for construction Portland cement plant.

COTTON COMPRESSES AND GINS

Ala., Carrollton.—J. H. McKee will rebuild burned cotton gin and saw mill.

Tex., Comyn.—Comyn Gin & Milling Co., capital \$3500, incptd. by J. W. Little, L. L. Hammond and B. F. Barnes.

COTTONSEED-OIL MILLS

Ga., Atlanta.—Buckeye Cotton Oil Co. will erect building at Capitol Ave. and Southern Ry.; 1 story; brick; 131x40 ft.; cost \$9000; Contr., Griffin Construction Co., Atlanta.

Ga., Atlanta.—Southern Cotton Oil Co. secured permit to erect addition to plant; 2 corrugated iron buildings; Virginia Bridge & Iron Co., Roanoke, Va., has contract.

Ga., Macon.—Buckeye Cotton Oil Co. let contract (lately noted) to H. B. Hoppendietzel Co., Macon, to build concrete foundation and side walls of 200x70-ft. combined seed-house and warehouse; steel roof by Virginia Bridge & Iron Co., Roanoke, Va.

N. C., Bladenboro.—Bladen Mfg. Co. (noted in May organized with \$50,000 capital) has not elected officers; open bids in January to erect 150x80-ft. mill-construction building; open bids at same time on equipment, costing

about \$20,000, for manufacture of cottonseed meal, oil and other cottonseed products. Address H. C. Bridger. (See Machinery Wanted—Oil-mill Machinery.)

DRAINAGE SYSTEMS

Ark., Knobel.—Drainage Comms. let contract Northern Construction Co., Elkhart, Ind., to construct 524 mi. of drainage canals and 84 mi. of levee along Black River to reclaim 33,000 acres; total estimated cost, \$116,300.

Ark., Marion.—Comms. Crittenden County Drainage Dist. No. 7 will construct about 44 mi. of ditches; 1,500,000 cu. yds. earth excavation; bids received Dec. 10; Morgan Engineering Co., Engr., 608 Goodwyn Institute Bldg., Memphis, Tenn. (See Machinery Wanted—Drainage.)

Fla., New Smyrna.—Lake Ashby Drainage Dist., Beal H. Wilson, Secy., contemplates opening canal construction bids in May or June; estimated cost about \$250,000; Isham Randolph & Co. of Chicago, Ill., and Jacksonville, Fla., will begin surveying within few days; drain 42,000 acres for agricultural, truck and citrus fruit lands, etc. (District lately noted established and preliminary engineering by Jacksonville office of Isham Randolph & Co.)

Fla., Orlando.—Orlando Securities Co. (Orlando), J. Edson Andrews, Secy.-Treas., general offices 806 Westminister Bldg., Chicago, is interested in formation of drainage district to construct about 60 mi. ditches and canals at cost of \$130,000 to \$175,000. (See Machinery Wanted—Drainage.)

ELECTRIC PLANTS

Ala., Fairhope.—City, A. O. Berglin, Mayor, will vote on \$5000 bonds for previously-noted electric-light plant; Edgar B. Kay, Engr., Tuscaloosa, Ala.

D. C., Washington.—Jas. A. Wetmore, Acting Supervising Archt., Treasury Dept., opened bids on erection of power plant, tunnel system, etc., which, on completion, will supply various government buildings with light, heat and power; tunnel system, comprising main tunnels and laterals, supplemental tunnels and vitrified ducts, will conduct high-pressure steam for nearly 2 mi.; main branch will extend to State, War and Navy Bldg., and laterals to other government structures to right and left of main line; tunnels in places will be 7 ft. wide and 6½ ft. high; cost about \$400,000; 3 bids submitted on entire system; power-plant building will be 178x129 ft., reinforced concrete construction, with steel-frame windows occupying greater part of wall space; W. G. Cornell Co., 617 Southern Bldg., Washington, is lowest bidder at \$1,688,500 on entire plant, tunnels and fittings; Geo. E. Wyne, 326-327 Munsey Bldg., Washington, is lowest bidder at \$397,000 on building only; bids were divided into sections ranging from A to Q; appropriation now available is \$1,494,104, but Congress will probably make further allowances after work is in progress. (Previously mentioned.)

Fla., Lakeland.—City, J. R. Boulware, Secy., Bond Trustees, will make additions to fire, water and electric systems; bids until Dec. 17; Schofield Engineering Co., Engr., Philadelphia, Pa. (See Water-Works; See Machinery Wanted—Fire, Water and Electric Systems.)

Fla., Webster.—Town Council is considering granting of franchise to construct electric-light, cold-storage and water plants. Address Town Clerk.

Fla., St. Cloud.—City, W. N. Garner, Mayor, engaged Wilbur A. Ginn, Sanford, Fla., to prepare preliminary plans for previously-noted electric plant; vote on bonds contemplated. (See Water-works and Machinery Wanted—Water, Sewer and Electric Plants Supplies.)

Ga., Davisboro.—City has plans by W. Hopson Goodloe, American National Bank Bldg., Macon, Ga., for electric-light plant; will vote on bonds.

Ky., Berea.—Isaacs & Baker Co. (A. Isaacs and J. K. Baker), lately noted as purchasing electric-light and power plant, will develop 100 H. P.; install equipment; cost of plant \$12,000. (See Machinery Wanted—Electric Plant Equipment.)

Mo., Frederick.—City is considering construction of electric-light plant. Address The Mayor.

Miss., Clarksdale.—City, M. W. Purnell, Clerk, asks bids until Dec. 14 on materials, including power-plant equipment; bonds were noted (in July) voted for enlargement of electric-light plant and various other improvements; W. C. Shurges Engineering Co., Engr., Meridian, Miss. (See Water-works and Machinery Wanted—Power-plant Equipment, etc.; Railway Equipment.)

Miss., Columbus.—City is reported as contemplating voting on \$10,000 bonds for electric-light plant and Main St. parking. Address The Mayor.

Miss., Forest.—Blenville Lumber Co. will purchase municipal electric-light plant and enlarge.

Mo., Poplar Bluff.—City let contract United Engineering Co., 327 S. La Salle St., Chicago, Ill., at \$96,400 for brick power-house, machinery foundations, water tubular boiler, feed pump and heater, condenser, two 300 H. P. Skinner unit flow engines, General Electric generators, pole lines and station wiring, and to Wasco Supply Co., St. Louis, Mo., at \$9180 for pole line supplies and materials; Fuller-Coutt Co., Engr., St. Louis, Mo. (Late-ly noted.)

Mo., Schell City.—E. T. Hartje, 2437 Independence Ave., Kansas City, Mo. (late-ly noted as receiving city franchise for electric plant), will develop 37½ or 50 H. P.; expects to connect Rockville; total cost of plant \$9000; will erect concrete building; install oil engine. (See Machinery Wanted—Electric-Plant Equipment.)

Mo., Trenton.—Trenton Gas & Electric Co. will erect building for electric plant and install generators and fuel-oil engines; also remodel and enlarge gas plant at cost of \$25,000 and build ice plant to cost \$35,000.

N. C., Elkin.—Chatham Mfg. Co., late-ly noted as making some improvements, will install water-wheel, etc. (See Water-power Developments.)

N. C., Kernersville.—City contemplates constructing electric-light system; will probably secure electricity from Southern Power Co.'s plant, in which event station will be built in city and connection made with Southern distributing system near Union Cross. Address The Mayor.

N. C., Statesville.—Southern Power Co. (main office, Charlotte, N. C.) will build electrical transformer station at Statesville.

Okla., Heavener.—City is reported to have voted \$20,000 bonds to construct electric-light plant. Address The Mayor.

Tex., Dallas.—Dallas Union Terminal Co., C. H. Dana, Ch. Engr., is proceeding with erection of late-ly noted power plant (for the company's use); J. W. Thompson, St. Louis, Mo., Contr.; all material is supplied.

Tex., Plainview.—Texas Utilities Co., capital \$250,000, incptd. by E. M. Kurtz, H. W. Beck, H. Wurdack and H. C. Randolph. (Late-ly noted as to acquire power, ice and water-plants and electric-transmission systems in Texas, including electric light, water and ice-plants at Plainview, electric-light and ice-plants at Lubbock, power and light-plants at Lockney, Tex., and about 75 mi. transmission lines in Floyd, Hale and Lubbock counties.)

Tex., Quanah.—City will extend electric power-house about 25 ft. and install larger Diesel engine. Address The Mayor.

Va., Virso.—Virso Development Co., A. J. Britton, Pres., is installing electric plant. (See Land Developments.)

W. Va., Mason.—Ohio River Salt Co. will install electric-light plant in power-house.

FERTILIZER FACTORIES

Ala., Dothan.—Home Guano Co., M. L. Hannahan, Gen. Mgr., will expend \$75,000 for improvements to plant, including equipment, to manufacture sulphuric acid for treating phosphate rock in manufacture of acid phosphate.

N. C., Shaleville (not a P. O.).—Lime and Stone Grinding.—E. V. Correll, Hot Springs, N. C., will build plant to grind lime and stone for agriculture.

S. C., Orangeburg.—J. Rutledge Connor of Ferguson, S. C., is reported as interested in installation of crusher to prepare agricultural lime from local deposits.

FLOUR, FEED AND MEAL MILLS

N. C., Asheville.—Asheville Milling Co., capital \$100,000, incptd. by E. P. Brownell, K. D. Baird and W. T. Hall; will rebuild plant; daily output, 300 bbls. flour and 1200

bu. cornmeal; also install feed milling plant; galvanized corrugated metal for outside walls; fireproof roof; let machinery contract to Great Western Mfg. Co., Leavenworth, Kans. (Company late-ly noted organized by Mr. Brownell and others.)

S. C., Rock Hill.—Matthews Bros. & Sons, capital \$2000, incptd. by T. A., J. S. and B. H. Matthews.

Tex., Hazel Mines.—Mineral Milling Co., capital \$50,000, incptd. by Henry M. Sutton, Walter L. Steele and Edwin G. Steele.

Tex., Memphis.—L. L. Foreman, Pres., Hall County Farmers' Union, is asking data and prices on machinery for proposed plant (late-ly incorrectly noted under Memphis, "Tenn."); contemplates manufacture of cornmeal, chops, etc.; company not organized. (See Machinery Wanted—Feed-mill Equipment, etc.)

Tex., Yoakum.—Orth Bros. are having plans prepared by J. Henry Yentzen, Yoakum, for fireproof milling plant.

FOUNDRY AND MACHINE PLANTS

Ala., Anniston.—Explosive Shells, etc.—Anniston Ordnance Mfg. Co., capitalization \$1,000,000, planned for organization to manufacture 12-inch explosive shells for English army and high-grade steel by electric process; proposes to utilize Anniston Car Works (controlled by Illinois Car & Equipment Co., Chicago) by improving buildings and installing additional machinery to include 6-ton Heroult electric furnace (ordered) costing \$60,000; organization under direction of Alabama Power Co., Birmingham, and 120 Broadway, New York, which has tentative contract for 50,000 shells; Jas. Mitchell, New York, Pres., Alabama Power Co., wires Manufacturers Record: "Contemplate using existing facilities for making

sheet iron roof; plans by and erection under supervision of the company; manufactures grey-iron castings; also brass castings.

W. Va., Wheeling—Gun Carriages.—Wheeling Mold & Foundry Co. is reported to build plant addition to manufacture gun carriages for United States Government.

GAS AND OIL ENTERPRISES

Fla., Jacksonville.—Oil Terminals.—The Texas Co. (main office Houston, Tex.) will enlarge oil terminals; build 4 additional tanks, 3 to have capacity of 21,800 bbls. each and fourth capacity of 3450 bbls., giving plant total capacity of about 124,000 bbls. refined oil and gasoline. J. D. Dodge is Local Supt.

La., Abita Springs.—Company organized with L. R. Sassnot, Pres., New Orleans; has leases on 5000 acres land and will drill wells for gas and Petroleum. (See Mining.)

La., Lake Charles.—Gas Plant.—Lake Charles Gas Co. (J. C. Fressler and G. C. Boyle), Von Phul & Gordon Bldg., let contract P. Olivier & Son of Lake Charles to erect building (for gas plant) estimated to cost \$13,000; American Gas Construction Co. of Chicago late-ly noted as having contract to construct distributing system; 17,000 mi. mains; daily capacity 200,000 ft.; total estimated cost \$100,000.

La., Shreveport.—Jas. McInerney and others are reported to have purchased 6400 acres of Cross Lake bottoms and to drill oil wells.

Mo., Trenton.—Gas Plant.—Trenton Gas & Electric Co. will remodel and enlarge gas plant; cost \$25,000. (See Electric Plants.)

Okla., Jennings.—Jennings Co-Operative Oil Co. organized with J. J. Kitzpatrick, Pres. and Gen. Mgr.; Emmett McElroy, Treas.; C. I. Fitzpatrick, Secy.; all of Jennings; Jas. D. McMahon, V.-P., Hammond, Ind.

PROPOSAL ADVERTISEMENTS IN THIS ISSUE

PUBLISHED ON PAGES 76.

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electric furnace steels and execution of orders, which we hope will lead to ultimate establishment of ordnance works and arsenal which will merit support of Federal Government in connection with its plans for national preparedness; new machinery required will be obtained from local manufacturers." (Southern Munitions Corp. reported in August as organized by interests closely connected with Alabama Power Co., etc.)

Ga., Atlanta.—Radiators.—Nichols Grate Radiator Co., 45 E. Hunter St., will manufacture grate radiators; asks prices on parts. (See Machinery Wanted—Sheet Iron and Brass, etc.)

Md., Baltimore.—Railway Cars.—German-American Car Co., Max Epstein, Pres., 111 W. Monroe St., Chicago, is reported as contemplating to build railway car works at Wagner's Point, on waterfront near Baltimore, on proposed Chesapeake & Curtis Bay R. R., wires Manufacturers Record: "Have no definite plans; merely giving matter consideration."

Okla., Sand Springs.—Tractor Engines.—Farm Engineering Co., composed of A. J. Patch and O. G. Patch, Engrs., will build plant to manufacture tractor engines for farming; first plant unit to be of glass and steel, 76x150 ft.; plans being prepared. (This supercedes recent item.)

Tenn., Chattanooga.—Pipe and Fittings.—United States Cast Iron Pipe & Foundry Co. will erect machine shop addition to manufacture flanged pipe and fittings.

Tenn., Chattanooga.—Explosive Shells.—Columbian Iron Works, 251-2531 Chestnut St., will install additional equipment to manufacture high explosive shells; now building its own special machinery; reported to have shell contract amounting to about \$100,000.

Va., Norfolk.—Structural Steel.—Norfolk Structural Steel Co., N. Block, Propr., 401 Nivison St., will erect foundry; estimated cost \$5000; brick building, steel trusses,

Okla., Medford.—La Morla Grande Oil & Gas Co., capital \$100,000, incptd. by D. L. Cline, Sam P. Biding, Sam C. Davis and others.

Okla., Newkirk.—Newkirk S. E. Oil Co., capital \$4000, incptd. by Geo. A. DeBolt, D. C. Paulin and D. A. Cederborg.

Okla., Newkirk.—Newkirk-Dale Oil Co., capital \$10,000, incptd. by H. M. Ziegler, G. P. Endicott, Geo. Albert, Jr., and others.

Okla., Newkirk.—Oil Refinery.—Jas. R. Armstrong, representing capitalists, is interested in promoting erection of oil refinery to have initial daily capacity 2500 bbls.; estimated cost, \$250,000.

Tex., Brenham.—Dippel Oil & Gas Co., capital \$12,000, incptd. by H. W. Dippel, Jr., B. Deppman and Ed. Schmidt.

Tex., Cuero.—Gas Plant.—Columbus Gas Construction Co., Peter J. Sult, Pres., 706 Majestic Bldg., Milwaukee, Wis., applied to city for franchise to build gas plant.

Tex., Dallas.—Seagoville Oil Co., capital \$15,000, incptd. by W. W. Johnson, W. E. Hufhines and others.

Tex., Houston.—Holly Oil Co., capital \$25,000, incptd. by I. M. Bradley, Wm. J. Brown and C. M. Wooster.

Tex., Houston.—Oil Refinery, etc.—National Oil & Gas Co., 1301 Carter Bldg. (late-ly noted incptd., capital \$60,000), H. H. Hoffman, Pres., contemplates construction of 22-mi. pipe line and erection of \$200,000 oil refinery. (See Machinery Wanted—Oil Refinery.)

Tex., Victoria.—Gas Plant.—Victoria Gas Co. will be organized to build gas plant after late-ly noted franchise is granted, which will probably be in about 30 or more days. (This franchise was late-ly noted applied for by Peter J. Sult, Pres., Columbus Gas Construction Co., 706 Majestic Bldg., Milwaukee, Wis.)

West Virginia.—Eureka Oil Co., capital \$10,000, incptd. by C. B. Mehard, C. D. Scully,

M. G. C. Gallacher and others of Pittsburgh, Pa.

W. Va., Clarksburg.—Pickens Farm Gas Co., capital \$20,000, incptd. by John Flint, H. H. Weekley, Olandus West and others.

ICE AND COLD-STORAGE PLANTS

Ark., Banks.—Citizens' Bank, Andrew V. Smith, Cashr., and associates plan construction ice and cold-storage plant. (See Machinery Wanted—Ice and Cold-storage Equipment.)

Fla., Webster.—Town Council is considering granting of franchise to construct cold storage, electric light and water plants. Address Town Clerk.

Ky., Bowling Green.—Kentucky Public Service Co. will build ice and cold-storage plant; compression system; daily capacity 25 tons.

Mo., Trenton.—Trenton Gas & Electric Co. will build ice-plant to cost \$35,000. (See Electric Plants.)

Tex., Tyler.—Tyler Ice Co. will erect 2-story 88x112-ft. brick and concrete building after plans by Bothwell & Shaw, Tyler; receives bids until Dec. 4; bids on building as whole, or separately for carpenter's work, roofing, plumbing and electric wiring. (See Machinery Wanted—Roofing, Plumbing, etc.)

IRON AND STEEL PLANTS

Ala., Anniston.—Steel Plant.—Anniston Ordnance Mfg. Co., capitalization \$1,000,000, planned to manufacture war munitions and steel for electrical manufacturing companies. (See Foundry and Machine Plants.)

Ala., Gadsden.—Iron Furnace.—Gulf States Steel Co., Jas. Bowron, Pres., Birmingham, Ala., has blown out iron furnace for repairs.

Ga., Rome.—Rolling Mill.—C. W. Raut, Lafayette, Ga., is reported as to establish rolling mill.

IRRIGATION SYSTEMS

Tex., Barstow.—Ward County Irrigation Dist. No. 1, G. W. Dyer, Pres., will construct dams, reservoir, head-gates, etc., for previously-mentioned irrigation system; specifications on file; bids to be opened Dec. 2. (See Machinery Wanted—Dam Construction, etc.)

LAND DEVELOPMENTS

Fla., Orlando.—Orlando Securities Co. formed with \$250,000 capital stock; general offices 845 Westminster Bldg., Chicago; purchased about 30,000 acres in orange county; represents merger of Ransom and Andrews properties; Jas. B. Ransom, Pres.; Hernas A. Perz, V.-P.; J. Edson Andrews, Secy., Treas.; all of Chicago; will continue development and colonization; developments to include cattle and hog raising; interested in organization of drainage district to construct about 60 mi. ditches. (See Drainage Systems.)

Miss., Columbus.—City is reported as contemplating voting on \$10,000 bonds for Main St. parking and electric-light plant. Address The Mayor.

Mo., Cape Girardeau.—City voted \$40,000 bonds to purchase 40 acres and improve as park. Address The Mayor.

Mo., Kennett.—Dunklin County Farm & Development Co., capital \$10,000, incptd. by E. C. Robinson, Pres.; W. J. Ward, V.-P.; W. H. Dorsey, Secy., Treas.; will develop 60 acres 3 mi. from Kennett; improvements include clearing full area, fencing, building houses and barns; contracts let locally.

Tenn., Sunbright.—Globe Nursery Co. (J. L. Wood and others), Bristol, Tenn., purchased 1200 acres timber, mineral and farming land in Morgan county; will clear and develop orchards. (See Lumber Manufacturing.)

Va., Portsmouth.—Hubert Bull Co., capital \$50,000, incptd.; Vernon A. Brooks, Pres.; W. J. Guille, Secy.

Va., Virso.—Virso Development Co., capital and surplus \$25,000, organized with A. J. Britton, Pres.; Robt. Blackwell, Danville, Va., V.-P.; D. T. Kennedy, Secy., Kenbridge, Va.; will develop about 2000 acres for town and small farms; now grading streets and installing electric plant; will build 3-story hotel and office building; grading cost \$5000; building and lighting \$15,000.

LUMBER MANUFACTURING

Ala., Carrollton.—J. H. McKee will rebuild burned sawmill and cotton gin.

La., Hammond.—L. J. Patenotte, New Orleans, La.; W. A. Grafes, Amite, La., and

A. M. Edwards, Ponchatoula, La., purchased 50,000 ft. yellow-pine stumpage east of Hammond; also purchased 70,000-ft. capacity mill and railway property of Graves & Chesbrough Lumber Co. at Amite and will remove mill and machinery, including rails and rolling stock, to timber property; will build 10-mi. standard-gauge railway; organizing company to manufacture lumber.

La., Holden.—C. L. Jackson will rebuild burned plant.

Miss., Lumberton.—Hillsdale Lumber Co. (B. Batson and Hutton Bros.), Hillsdale, Miss., purchased 5100 acres yellow-pine timber land and will develop.

Mo., Kansas City.—Portillo Land & Lumber Co., capital \$600,000, incptd. by L. B. Freeborn, F. W. Freeborn and J. O. Edison.

N. C., Foscoe.—W. S. Whiting, Elizabeth-Tenn., is interested in proposed sawmill operation at Foscoe. (Whiting Lumber Co., North Philadelphia, lately incorrectly noted to build mill.)

Okla., Tahleah.—Tahleah Lumber Co., capital \$500, incptd. by Jas. R. Howell, Harry N. Pollock and Wm. Holcomb.

Tenn., Knoxville.—Witt Lumber Co., capital \$15,000, incptd. by J. R. Witt, H. D. Blanc, E. F. Witt and others; will build sawmill.

Tenn., Sunbright.—C. H. Herron, Sevierville, Tenn., purchased timber on 1200 acres land of Globe Nursery Co.; will install sawmill. (See Land Developments.)

Tex., Hondo.—Kuntz-Flint Lumber Co., capital \$10,000, incptd. by T. H. Flint of Hondo, John J. Kuntz and Roy B. Hollingsworth of San Antonio, Tex.

METAL-WORKING PLANTS

D. C., Washington.—Locks.—Crandall Lock Co., capital \$25,000, incptd.; Emery P. Crandall, Pres., 322 A St. S. E.; Geo. E. Aytton, Secy.

Mo., Carthage.—Turkey Point Metal & Milling Co. (lately noted incptd.) will operate plant at Wentworth, Mo. (See Mo., Wentworth.)

Mo., Hannibal.—Wire Fabric.—Hannibal Wire Fabric Co. will erect 4 brick buildings; 150x25 ft., 34x90 ft., 30x60 ft. and 70x150 ft., respectively; let contract.

Mo., Wentworth.—Turkey Point Metal & Milling Co. incptd.; capital \$12,000; J. L. Edwards, Pres. and Mgr.; C. T. Hines, V.-P.; Geo. Parke, Secy., R. F. D., Box 6B½; has mill.

Va., Norfolk.—Wrenches, etc.—Wheeling Development Co., John T. Scott, Pres., Bridgeport, O., will build wrench and chain-tong factory near Camptostella; estimated cost \$30,000; erect 2-story brick factory building and dwellings for employees; also plans to construct public driveway bridge across Steamboat Creek.

W. Va., Wheeling.—Roofing, etc.—Wheeling Ceiling & Roofing Co., 803 Schmulbach Bldg., will hold meeting Nov. 26 to consider increase in capital stock from \$150,000 to \$400,000.

MINING

Ark., Black Rock.—Zinc.—Consolidated Zinc & Rock Co., 19 Odd Fellows Bldg., Memphis, Tenn., will operate zinc mill in about 90 days; has mill and 500 acres zinc lands; 3 shafts sunk to 168 ft. (See Miss., Iuka.)

Fla., Sidney.—Phosphate.—A. B. Hull and Mr. De Vane of Fort Meade, Fla., are reported to have secured option of about 4000 acres near Sidney and to develop phosphate deposits.

Ga., Shackleton.—Iron.—R. G. Peters Mining Co. is reported as to open additional (third) iron mine.

La., Abita Springs.—Ochre, etc.—Company organized with \$200,000 capital, and L. R. Sammit, Pres., New Orleans; M. Nielson, V.-P.; A. H. Grimmer, Secy.; E. V. Richard, Treas., all of Covington, La.; plans to develop mineral deposits in St. Tammany parish and manufacture ochre and mineral paint, talcum powder, aluminum, roofing tile, etc.; has leases on 5000 acres land and will drill wells for gas and petroleum.

Md., Baltimore.—Sand and Gravel.—Arundel Sand & Gravel Co., Pier 2, Pratt St., foot of Commerce St., will hold meeting Dec. 2 to ratify increase in capital from \$200,000 to \$3,250,000; acquire property of Frank A. Furst Realty Co., comprising 400 acres waterfront property in Curtis Bay district suitable for industrial development; in addition to increase in capital, plan provides for issuance of \$750,000 notes, of which \$500,000 are to be issued at once and remaining \$250,000 held for improvements.

Md., Williamsport.—Limestone.—Pittsburgh Limestone Co., Pittsburgh, Pa., acquired property near Williamsport and will develop limestone deposits.

Miss., Iuka.—Gravel.—Consolidated Zinc & Rock Co., Memphis, 19 Odd Fellows Bldg., Memphis, Tenn. (mines at Black Rock, Ark.), consolidates with its Black Rock operations the property of Allen Gravel Co. of Iuka, the latter company's stock having been purchased by S. M. Neely and Geo. W. Neal (Mgr. of Consolidated Co.); Allen Gravel Co. property comprises about 1000 acres gravel lands; estimated capacity for coming year about 10,000 cars; general office, both plants, Memphis. (See Ark., Black Rock.)

Mo., Briceys—Stone.—Carrom Quarry & Mfg. Co., capital \$15,000, incptd. by Theo. Carrom, R. E. Rombauer and Frank Roster; will install quarrying and stone-manufacturing machinery.

Mo., Joplin.—Lead and Zinc.—Underwriters' Mining Co., capital \$10,000, incptd. by Geo. W. Worthington, A. W. Thurman and F. R. Harrington.

Mo., Joplin.—Lead and Zinc.—United States Paymaster Mining Co., capital \$25,000, incptd. by F. W. Wasserman, Clyde H. Miller and W. C. Jones.

Mo., Kansas City.—Lead and Zinc.—H. R. & C. Mining Co., capital \$50,000, incptd. by August H. Christ, Hiram H. Heaps and Jos. Hopkins.

Mo., Oronogo.—Lead and Zinc.—Sam Thornton of Joplin, Mo., and others contemplate building concentrating plant.

Mo., Webb City.—Lead and Zinc.—National Lead & Zinc Co. let contract Webb City and Cartersville Foundry to build 300-ton concentrating plant.

Okla., Kusa.—Zinc.—Oklahoma Spelter Co. will build zinc smelter.

Okla., Miami.—Lead and Zinc.—Trustees Mining Co. will build 200-ton mill; controls 40-acre lease.

Tenn., Erwin.—Zinc.—G. C. Williams and C. P. Edwards are reported to develop zinc deposits.

Tenn., Knoxville.—Stone.—Gray Stone Property Co., capital \$9000, incptd. by John S. Boyd, Sallie R. Boyd, Lella M. Boyd and others.

Tex., Beaumont.—Gravel.—Romayer Gravel Co., capital \$20,000, incptd. by E. A. Fletcher, J. F. Keith and Geo. D. Anderson.

Tex., Dallas.—Culco Mining Co., capital \$5000, incptd. by A. C. Horn, L. E. Dougherty, Jesse Williamson and Daniel Byrnes.

Tex., El Paso.—Sulphur.—Chas. F. Z. Caracristi, Engr. and Geologist, Hotel Paso del Norte, and D. W. Dunlop, Bloomington, Ill., interested in plan to develop sulphur deposits in El Paso and Culberson counties.

Va., Fredericksburg.—Gravel and Sand.—Musterfield Sand & Gravel Co. will build plant with daily capacity 25 to 50 carloads washed and sized gravel. (See Machinery Wanted—Gravel Plant.)

W. Va., Olmsted.—Sand.—Elkhorn Sand & Supply Co., capital \$20,000, incptd. by W. W. Wood, G. L. Wood, H. P. Carrington and others.

MISCELLANEOUS CONSTRUCTION

La., New Orleans.—Wharf Piling, etc.—Port Commrs. opened bids for piling, timber, etc., for wharf of grain elevator; wharf to be 1350 ft. long and 12 ft. wide; Doullut & Williams of New Orleans are lowest bidders at \$154,000; Ford, Bacon & Davis, Engrs., 921 Canal St., New Orleans. (Call for bids lately noted.)

Md., Baltimore.—Coal Pier.—Baltimore & Ohio R. R., F. L. Stuart, Ch. Engr., invites following bidders to submit bids on erection of coal pier at Curtis Bay: Consolidated Engineering Co., 243 Calvert Bldg.; Layton F. Smith, 513 N. Charles St.; Edward Brady & Son, 1113 Cathedral St.; Sanford & Brooks, Commerce and Water Sts.; McLean Contracting Co., 1411 Fidelity Bldg.; J. J. Walsh & Son, 1533 Maryland Ave., all of Baltimore; Jas. Stewart & Co. and Jas. A. Hart, both of New York; Roydhouse-Arey Co. and Day & Zimmerman, both of Philadelphia; pier to be 700 ft. long by 115 ft. wide; fireproof construction throughout; annual capacity 10,000,000 tons; maximum capacity hourly 6000 tons; car dumpers will handle cars 53 ft. long and have capacity hourly of 40 100-ton cars. (Further facts lately noted.)

Miss., Meridian.—Subway.—City (John W. Parker, Mayor), Mobile & Ohio R. R. (B. A. Wood, Ch. Engr., Mobile, Ala.), Southern Ry. (W. H. Wells, Ch. Engr. Construction,

Washington, D. C.), New Orleans & North-eastern R. R. (A. A. Woods, Supt., New Orleans, La.) agreed to construct subway to Southwide at 26th Ave. crossing.

Mo., Joplin.—Natatorium.—Park Com. will build swimming pool in Schifferdecker Park.

Mo., New Madrid.—Levee.—St. John Levee and Drainage Dist. of Missouri, W. S. Edwards, Secy., South Room, Hunter Bank Bldg., let contract Charleston Construction Co. to construct 5700 ft. levee; estimated cost \$50,000; Miller Engineering Co., Engr., Little Rock, Ark. (Call for bids lately noted.)

Tex., Beaumont.—Wharf.—City let contract John O. Kelley of Beaumont at \$65,536 to construct 500-ft. concrete wharf, being unit No. 2 of municipal wharves; rejected bids on sheds, terminal tracks and loading machinery to be built in connection with wharves and will invite new bids; C. L. Scherer, City Engr.

W. Va., Wheeling.—Swimming Pool.—West Virginia State Fair Assn. has plans by F. F. Farls for swimming pool and bathrooms; pool to be circular, 170 ft. in diam.; estimated cost \$25,000.

W. Va., Wheeling.—Swimming Pool.—German-Columbia Club, 2132 Market St., let contract to W. A. Wilson & Sons, Wheeling, to construct lately-noted swimming pool; 20 ft. 8 in. by 42 ft.; cost \$1500; plans by F. F. Farls, Wheeling.

MISCELLANEOUS ENTERPRISES

Fla., Miami.—Contracting.—Belcher Asphalt Paving Co. organized with S. A. Belcher, Pres.; I. Schilling, Secy.; J. F. Jaudon, Treas.; will construct asphalt roads in accordance with Belcher methods.

Fla., St. Augustine.—Publishing.—Florida Farmer Co., capital \$15,000, incptd.; Harry L. Brown, Pres.-Treas.; S. H. Traer, V.-P.; Will M. Traer, Secy. and Gen. Mgr.

Ga., Atlanta.—Industrial Building.—Estate of D. Greenfield, 68-A S. Forsyth St., will remodel 66x200-ft. 5-story-and-basement structure at 37-41 S. Forsyth St. for manufacturing and business building; cost, without equipment, \$30,000; metal-sash, brick, joist construction; sprinkler; tar and gravel roof; power floor; high-pressure steam heat; electric power and lighting; 1 passenger and perhaps 3 freight elevators; construction under superintendence and day labor. (See Machinery Wanted—Elevators; Sprinkler System; Boiler.)

Ga., Rome.—Laundry, etc.—F. C. Moore, Jellico, Tenn., is reported as to establish laundry and dry-cleaning plant.

Ga., Savannah.—Abattoir.—Georgia Land & Cattle Co. will establish stockyard, abattoir, etc.; acquired 5900 acres, which is being planted in grass, etc.; abattoir to have daily capacity for slaughtering 50 head of cattle and hogs; main building of abattoir to be 40x100 ft.; complete refrigerating plant, with capacity for storing 150 beefs; also department for storing and pickling meats.

Ky., Louisville.—Publishing.—Light Publishing Co., capital \$5000, incptd. by H. B. Norwood, J. W. Norwood, F. M. Harris and J. B. Faulkner.

La., New Orleans.—Roller Coaster.—Robt. J. Loper and A. N. Williams, Jr., of Huntington, W. Va., are reported to build roller coaster to cost \$10,000.

Md., Baltimore.—Galvanizing Plant.—A. W. Hahn, New York, plans installation machinery for galvanizing in factory building at 16th St. and 2d Ave.

Mo., St. Louis.—Plumbing Supplies.—I. R. Goldberg Plumbing Supply Co., capital \$10,000, incptd. by I. R. Goldberg, Mrs. Lena Goldberg and Solomon Thaler.

Mo., St. Louis.—Construction.—Hoffmann Bros. Construction Co., capital \$2000, incptd. by Fred A. Hoffmann, Louis Hoffmann and Fred Hoffmann.

Mo., St. Louis.—Carpet Cleaning, etc.—L. Manne Upholstering & Carpet Cleaning Co., 2724 N. Grand Ave., lately noted letting additional building contract to J. H. Schaeffer, 4612 Labadie Ave., will erect 36000 40x43-ft. fireproof structure; plans by E. Nieman, 3618 Shaw St.; install carpet cleaning, mirror polishing, feather and mattress renovating and chair caning machinery. (See Machinery Wanted—Boilers, Engines and Machinery.)

Mo., St. Louis.—Cattle.—Hammond Cattle Co., capital \$200,000, incptd. by R. R. Hammond, J. J. Frey and H. J. Fischer.

S. C., Charleston.—Hardware.—Shaffer Hardware Co., capital \$5000, incptd. by F. R. Shaffer and G. E. Shaffer.

Tenn., Knoxville.—Construction.—Knox-crafter, Inc., capital \$25,000, chartered by Robt. L. Foust, Jas. P. McMillan, H. A.

Pickle and others; for general construction purposes.

Tex., Port Aransas.—Fishery.—The Fisheries Co., capital \$450,000, organized with J. W. Munn, Pres.; A. J. Delaney, V.-P., and Gen. Mgr.; W. L. Moody, Jr., Secy.-Treas., all of Galveston, Tex.; succeeds Gulf Menhaden Co. and will build larger plant on St. Joseph's Island; daily capacity, 5000 bbls., equal to about 1,000,000 lbs. of fish, from which may be extracted 10,000 lbs. oil; let contract for piling to International Crowing Co. and to Chas. Clarke & Co., both of Galveston, to place piling and wharfing; plant to be 12 ft. above mean low tide; wharf will be 230 ft. long with elevators to lift fish directly from boats. (Lately noted under Aransas Pass.)

Tex., San Antonio.—Laundry.—Ideal Penny Laundry Co., capital \$5000, incptd. by G. L. Wallace, G. H. Faust and T. B. Bowlds.

Va., Petersburg.—Printing.—Franklin Press Co., capital \$75,000, incptd.; Thos. Y. Sydnor, Pres.; Herbert Plummer, Secy.-Treas.

Va., Petersburg.—Laundry.—White Cross Laundry Corp., capital \$50,000, chartered; R. A. Harman, Pres. and Mgr., 613 Mechanics' Bldg.; D. H. Wilcox, V.-P.; J. E. Cuthbert, Secy.; will let contract Dec. 10 to erect 40x120-ft., 2-story, \$18,000 building of steel, concrete and brick construction; plans by H. T. Barnham, 2703 Hanover Ave., Richmond; will install individual-motor machinery, cost about \$15,000. (See Machinery Wanted—Laundry Machinery.)

MISCELLANEOUS FACTORIES

Ala., Birmingham.—Tires.—C. E. Frost of First National Bank, Athens, Ala., is interested in establishment of plant to manufacture rubber automobile tires; estimated cost \$500,000.

Fla., Sanford.—Boats.—S. Sherman and C. Kennison will build plant to manufacture tugs, barges and launches; purchased site.

Fla., Tarpon Springs.—Macaroni.—Pappas & Smittes are reported to establish macaroni factory.

Ga., Atlanta.—Acetylene Apparatus.—Oxy-Acetylene Welding & Engineering Co., capital \$90,000, incptd. by M. F. H. Koch, J. H. Simms, O. D. Small and W. N. Tumlin.

Ga., Columbus.—Cane Products.—Hardaway-Cargill Co. will build plant to manufacture cane products; 1 or 2 stories; double present output.

Ga., Macon.—Chemicals.—W. Gordon McCabe Chemical Co. of Charleston, S. C., acquired properties of Interstate Chemical Corp., located in Macon, Charleston, S. C., and Charlotte, N. C.; will enlarge and operate. (See S. C., Charleston.)

Ga., Raymond.—Sweeping Compound.—Raymond Industrial Club is negotiating for establishment of sweeping-compound factory. (See Machinery Wanted—Sweeping-Compound Machinery.)

Ga., Rome.—Nitrocellulose.—Georgia Mfg. Co. incptd. by H. E. Kelley and others; has building and will install machinery to manufacture nitrocellulose for bleaching linen and absorbent cotton.

Ky., Ashland.—Dyes.—Wm. Salisbury, Mayor, negotiating with New York capitalists who have purchased 16-acre site for construction plant to manufacture coloring materials from coal by-products; to invest \$600,000.

Ky., Louisville.—Films.—Enterprise Film Co., capital \$2000, incptd. by N. M. Sweet, R. W. Conant and N. J. Shelton.

Ky., Louisville.—Lithograph Stone.—Kentucky Lithograph Stone Co. increased capital from \$35,000 to \$50,000.

La., Shreveport.—Stalk Cutter.—Yarborough Rotary Stalk Cutter Co. (Bird Bros., Fiscal Agents, Ward Bldg.) is being organized by T. M. Yarborough, Herman R. Strube, T. E. Bird and John Bird with \$50,000 capital stock to manufacture rotary stalk cutter.

Md., Baltimore.—Ice Cream.—Maryland Ice-Cream & Fruit Products Co. at 17-21 E. Pratt St., is reported to have plans by C. D. Cooley Co. of Pittsburgh, Pa., for addition to plant.

Mo., Kansas City.—Mineral Paint.—Quaker Mineral Paint Mfg. Co. increased capital stock from \$20,000 to \$50,000.

Mo., Kansas City.—Cereals.—Atlas Cereal Co., 8th and Santa Fe St. (lately noted incptd., capital \$150,000), organized; William Eastlake, Pres. and Mgr.; John F. Kendig, V.-P.; Wm. G. Holt, Secy.; takes over equipped plant of Atlas Oats Co.; daily capacity 1000 bbls. corn and 350 bbls. oats.

N. C., Charlotte—Chemicals.—W. Gordon McCabe Chemical Co., Charleston, S. C., acquired properties of Interstate Chemical Corp., located in Charlotte, Charleston, S. C., and Macon, Ga.; reported to erect 1 or more buildings in Charlotte and install additional machinery. (See S. C., Charleston.)

N. C., Dunn—Bottling.—Dunn Christo Cola Bottling Works, capital \$10,000, inceptd. by R. W. Pope, W. H. Herring and B. A. Rowland.

N. C., Lumberton—Chemicals.—Ulcerine Chemical Co., capital \$150,000, inceptd. by R. G. Rogers, H. M. McAllister and Geo. B. McLeod.

N. C., Lumberton—Chemicals.—Dr. Edmund Chemical Co., capital \$150,000, inceptd. by Dr. W. O. Edmund, A. P. Caldwell and C. V. Brow.

N. C., Henderson—Bakery.—Whitmore Bakery Co., capital \$10,000, inceptd. by R. F. Whitmore, H. J. Whitmore and Myrtle J. Whitmore.

N. C., Rutherfordton—Harness.—Marks Harness Factory is reported to erect building for plant.

N. C., Wilmington—Electric Thermometers.—National Electric Thermometer Co., 123 N. 7th St. (lately noted organized, capital \$10,000), will manufacture "Tell Tale" thermometers for regulating heat in cold-storage plants, tobacco barns, cotton-oil mills, etc.; M. J. Carson, Pres.; L. O. Smith, V.-P. and Mgr.; C. S. Britt, Secy. (See Machinery Wanted—Alarms, Thermometer, Electric.)

N. C., Winston-Salem—Automobile Enamel. J. C. Tucker Co. (care of Forsyth Hardware Co.) will establish plant to manufacture automobile enamel.

S. C., Charleston—Chemicals.—W. Gordon McCabe Chemical Co. acquired properties of Interstate Chemical Corp., located in Charleston, Charlotte, N. C., and Macon, Ga.; plans to enlarge plants and operate; reported to erect 1 or more buildings in Charleston and install machinery.

Tenn., Jellico—Clothing.—Jellico Clothing Mfg. Co. increased capital from \$25,000 to \$25,000.

Tenn., Kingsport—Dyes.—Federal Dyestuff & Chemical Co., John C. Hebben, Engr., 80 Pine St., New York, will build dye-manufacturing plant, as lately outlined; financed by New York capitalists; not now prepared to state plant details; first building 75x70 ft.

Tenn., Nashville—Cereals, Nut Butter, etc. Wm. B. Pickard, 309 7th Ave. S., and others will organize company to manufacture cereal, nut butter, stock food, etc.; lately noted inceptd., capital \$20,000. (See Machinery Wanted—Nut-butter Machinery, etc.)

Tenn., Dallas—Chemicals.—Standard Chemical Co., capital \$500,000, inceptd. by E. F. Ballard, T. J. Vinyent and J. G. Roberts.

Tenn., San Antonio—Optical Goods.—H. L. Noble Optical Co., capital \$500, inceptd. by H. L. Noble, T. M. Miller and H. E. Hyde.

Va., Charlottesville—Bottling.—Charlottesville Christo Cola Co. (lately noted inceptd., capital \$15,000) will operate bottling plant in rented building; H. W. Walsh, Pres.; E. G. Lee, Secy.; J. W. Fry, Jr., Mgr. and Treas.; manufacture soft drinks. (See Machinery Wanted—Bottling Machinery.)

W. Va., Bluefield—Bottling.—Bluefield Bottling Co. let contract Graham Contracting Co., Graham, Va., to erect bottling plant; 3 stories; fireproof; 31x65 ft.; brick and concrete; freight elevator from first to third floor; cost about \$8500; plans by Pedigo & Gary, Kelley & Moyer Bldg., Bluefield. (Lately noted.)

W. Va., Wheeling—Optical Goods.—State Optical Co., capital \$10,000, inceptd. by A. C. Thomas, A. V. Thomas, L. B. Cozad and others.

MOTORS AND GARAGES

Ala., Anniston—Garage.—Anniston Auto Co., W. A. White, Secy., 907 Quintard Ave., let contract to L. H. McKibbin, to erect \$2500 50x70-ft. fireproof garage. (Lately noted.)

Ky., Louisville.—People's Motor Co., capital \$5000, inceptd. by B. F. Bloch, J. G. Bloch and W. S. Heidenberg.

Md., Baltimore—Garage.—Wm. H. Marcus of Marcus & Horkheimer, 525 Equitable Bldg., is having plans prepared for garage at Nos. 25-33 W. Mt. Royal Ave.; probably 2 stories, of brick and reinforced concrete construction.

Md., Baltimore—Automobile Repairing and Supplies.—Baltimore Buggy Top Co., 107-113 W. Mt. Royal Ave., will build addition to plant; 1 story; brick; 76.4x124x49 ft.; Mc-

Laughlin Bros., Inc., 915 Bolton St., have contract.

Md., Baltimore—Garage.—Mid-City Garage & Motor Supply Co., capital \$250,000, inceptd. with John W. Frick (of Baldwin & Frick, 309-310 Keyser Bldg.), Pres.; Horace N. Slingluff, Jr., V.-P. and Gen. Mgr.; Morris H. Grape, Secy.-Treas.; acquired site at 27-31 S. Charles St., on which to build garage and repair shop; fireproof; reinforced concrete; capacity of about 200 cars; Clyde N. Fritz, 1523 Munsey Bldg., Baltimore, is preparing plans.

N. C., Winston-Salem—Automobile Line.—Arrow Jitney Co., capital \$50,000, inceptd. by E. P. Yates, I. C. Yates and W. B. Pollard.

Okla., Oklahoma City—Automobile Supplies. Burwell-Smith Supply Co., 416 N. Broadway, will erect building for automobile supply-house; cost \$10,000.

S. C., Meggett—Automobile Repairing.—Farm & Auto Repair Co., capital \$2000, inceptd. by F. E. Towles, D. L. Towles, M. M. Smoak and W. F. Carr.

Tenn., Nashville—Garage.—Rock City Auto & Storage Co., 169 3d Ave. N., Nashville (lately noted inceptd., capital \$1000), will conduct garage and repair automobiles; M. W. Brown, Pres.; F. R. Brown, V.-P.; T. E. Callis, Secy.-Mgr. (See Machinery Wanted—Automobile Repair Equipment.)

Tenn., Houston—Garage.—C. M. Malone of Bankers' Trust Co., San Jacinto and Walker Sts., will erect 2-story brick building; Paige Auto Sales Co. will occupy 50x125 ft. on both floors.

Va., Richmond—Automobiles.—Willys-Overland, capital \$500,000, inceptd. by J. N. Willys (Pres.) and Royal E. Scott, both of Toledo, Ohio.

RAILWAY SHOPS, TERMINALS, ROUNDHOUSES, ETC.

N. C., New Bern.—Norfolk Southern R. R., F. L. Nicholson, Ch. Engr., Norfolk, Va., will rebuild shops reported burned at total loss of \$75,000, including \$30,000 on buildings.

Okla., Oklahoma City.—Fort Smith & Western R. R., W. E. Welch, Supt., Fort Smith, is reported as considering erection of terminals.

Tenn., Dallas—Union Terminal Co., C. H. Dana, Ch. Engr., will erect additional buildings costing about \$100,000, including boiler-house, turntable, tool-house, terminal-service-house, Pullman-service house, toilet building, sandhouse, hose-reel house, ice-house, signal towers and minor buildings.

ROAD AND STREET WORK

Ala., Birmingham.—City will construct asphaltic concrete paving on S. 26th St. from 6th Ave. to 8th Ave.; estimated cost \$6400; Julian Kendrick, City Engr.

Ala., Birmingham.—City will construct concrete sidewalks, about 7000 sq. yds., on 1st Ave. from 32d to 41st St.; cost about \$5500; Julian Kendrick, City Engr. (See Machinery Wanted—Paving.)

Ala., Camden.—City will vote Dec. 6 on \$4250 bonds for street improvements; Edgar B. Kay, Engr., Tuscaloosa, Ala. (See Water-works.)

Ala., Tuscaloosa.—City, J. Virgil Jones, Clerk, will not construct lately noted paving on 20th St.; applied bond issue of \$4000 to previous paving.

Fla., Clearwater.—Pinellas county voted \$715,000 bonds to construct 73.34 mi. brick road, contract for which has been let to Edwards Construction Co. of Tampa; J. B. McCrary Co., Engr., Atlanta, Ga. (Lately noted.)

Fla., De Land.—Volusia county will vote again on bonds to construct roads; \$110,000 bond issue to construct shell roads lately reported defeated; new election will consider another material. Address County Comms.

Fla., Fort Lauderdale.—Broward county votes Dec. 11 on \$165,000 bonds to construct roads and bridges in special road and bridge district. Address County Comms. (Lately noted.)

Fla., Fort Myers.—City did not vote bonds for roads. (Recent report incorrect.)

Fla., Fort Myers.—Lee County Comms., H. A. Hendry, Clerk, let contract W. R. Wallace & Co. of Fort Myers for clearing, grubbing and grading Bonita Springs-Henderson Creek section of Fort Myers-Marco Road and McCormick & Monroe of Fort Myers for piling and timber bridge work on entire length of road included in Special Road and Bridge Dist. No. 1; P. F. Jenkins, Engr., Fort Myers. (Call for bids lately noted.)

Fla., Miami.—City let contract F. L. De Vane to construct sidewalks on 8th St. and

Boulevard and on Ave. D from 20th to 25th St.

Fla., Sarasota.—City, Fitch P. Wright, Commr. Public Works, let contract to Southern Asphalt & Construction Co., Birmingham, Ala., to construct 1½ mi. paving and 3 mi. curb and gutter; 1½-in. asphaltic concrete on 4-in. concrete base. (Bids lately noted.)

Fla., St. Cloud.—City, W. N. Garner, Mayor, engaged Wilbur A. Ginn, Sanford, Fla., to prepare preliminary plans for improvements, including paving of several streets; contemplates vote on bonds. (See Water-works and Machinery Wanted—Water, Sewer and Electric-plant Supplies.)

Ga., Savannah.—Chatham County Comms. will probably begin construction within about 90 days of road from Savannah to Tybee Island via Fort Screven; length 18 mi.; shell surface; 4 steel drawbridges; total cost \$375,000; all of work to be let by contract; T. Newell West, Supt. Public Works. (Lately noted to have voted \$375,000 bonds.)

Ky., Albany.—Clinton county will construct 3 mi. macadam road; bids until Nov. 30; C. B. Parrington, Chrmn. County Commissioners. (See Machinery Wanted—Road Construction.)

Ky., Bellevue, P. O. at Newport.—City voted \$25,000 bonds to reconstruct Taylor Ave. from Fairfield to Grandview; John L. Winters, Mayor. (Lately noted.)

Ky., Georgetown.—Scott county votes Jan. 15 on \$100,000 bonds to improve roads. Address County Comms.

Ky., Greenville.—Muhlenberg County Comms., Greenville, Ky., let contract W. S. Martin, Evansville, Ind., to construct 4 mi. pile road and to Tri-State Stone Co., Cerulean, Jr., to furnish rock; estimated cost, \$25,000.

Ky., Lebanon.—Marion County Comms. let contract T. M. Estes and Forrest Ward at \$13,420 to improve Bradfordsville Pike for 9 mi. from Lebanon to Bradfordsville.

Ky., Morganfield.—Union County Comms. let contract Collins & Pavy, Mt. Vernon, Ill., at \$28,500 to improve road from Uniontown to Boxville. (Lately noted.)

La., Amite.—Tangipahoa parish, H. P. Mitchell, Ponchatoula, La., Pres. Police Jury, let contract to Womack & Kent, Kentwood, La., and Thompson & Dykes, Oskya, Miss., to construct 40,000 cu. yds. sand-clay roads; \$12,000 available; John E. Kerrigan, Hammond, La., Engr. (Bids lately noted.)

La., Monroe.—City let contract Merrill Road Improvement Co. of Chattanooga, Tenn., at about \$40,000, to gravel and pave with tarvia River Front St., Park Ave. and portion of Walnut St., about 2½ mi.; concrete curbs and gutters; 36,000 sq. yds.; Finley method surface treatment; R. O. Morrison, City Engr. (Call for bids lately noted.)

Md., Baltimore.—City let contract Wm. F. Huse, 2800 Montebello Ave., at \$9724 to top-soll parked spaces on 33d St. from St. Paul St. to Hillen Rd.; about 8600 cu. yds.; Contract No. 122-A. (Call for bids lately noted.)

Mo., Bolivar.—Polk county, Bolivar Special Road Dist., is reported to have voted on \$25,000 road bonds. Address County Commissioners.

Mo., Poplar Bluff.—Butler county contemplates voting on \$275,000 bonds to improve roads. Address County Comms.

Mo., Sedalia.—City will let contract Dec. 6 to construct 9200 sq. yds. vertical fiber brick paving with asphalt filler on Montebello Ave.; estimated cost, \$16,000; F. T. Leaming, City Clerk. (Date postponed from Nov. 1, lately noted.)

N. C., Danbury.—Stokes county, Yadkin township, voted \$50,000 bonds to construct roads. Address County Comms. (Lately noted.)

N. C., Elizabethtown.—Bladen county, Bladenboro township, voted \$25,000 bonds to construct roads. Address County Comms.

N. C., Franklin.—Macon county, Cowee township, Elmer Johnson, Clerk, defeated lately noted \$15,000 bonds for road improvements.

Okla., Chickasha.—Grady county is reported as contemplating election to vote on \$100,000 road and bridge bonds. Address County Comms.

Okla., Okmulgee.—City, R. H. Jenness, Commr. of Finance, let contract to Parks & Moran, Okmulgee, at \$69,853.92, for paving, curbs, gutters, etc., Street Improvement No. 7. (Bids lately noted.)

Okla., Oklahoma City.—City let contract Western Paving Co., Oklahoma City, at \$29,496.43 to pave 8 blocks, including sections of 15th and 14th Sts., Harvey and Walnut Aves., with asphalt.

S. C., Gaffney.—City will pave Frederick St. from Petty to Granard St., about 2 blocks; Southern Paving Brick Construction Co. of Chattanooga, Tenn., is contractor.

S. C., Summerville.—City, L. A. Walker, Chrmn. Com. on Ways and Means, Guerin Bldg., Main St., has postponed lately noted election on \$30,000 bonds for street improvements pending decision as to kind of roads to be constructed.

Tenn., Jonesboro.—Washington county votes Dec. 18 on \$425,000 bonds to construct roads. Address County Comms. (Lately noted.)

Tenn., Braumont.—C. L. Scherer, City Engr., submitted to City Council revised street-paving plan, calling for laying of about 5000 sq. yds. paving estimated to cost \$302,000; of this amount city will pay about \$73,000 and railroad and traction companies remainder; \$85,000 bonds voted in May.

Tenn., Clarksville.—Red River County Road Dist. No. 1 will construct system of roads and bridges at estimated cost of \$300,000; bids until Dec. 9; Geo. Morrison, County Judge. (See Machinery Wanted—Road and Bridge Construction.)

Tenn., Fort Worth.—City let contract General Construction Co. of Fort Worth to pave Sunset, Jarvis and Daggett Aves., and to Texas Bitulithic Co. of Dallas, Tex., to pave 5th Ave. and Jessamine St.; F. J. von Zuben, City Engr. (Call for bids lately noted.)

Tenn., Georgetown.—Williamson County Comms. let contract J. S. Toby & Co., Fort Worth, Tex., at \$114,000 to construct 55 mi. gravel and macadam road.

Tenn., Kountze.—Hardin County Comms. let contract Cobb & Gregory to construct shell road from Pine Island Bayou to Kountze; cost \$75,000.

Tenn., Houston.—City let contract Horton & Horton of Houston to pave with Uvalde rock asphalt intersection of Stratford and Connor Sts. with Lovett Boulevard; appropriated \$4500.

Tenn., Longview.—Gregg County Comms. let contract to Owens Construction Co., Vicksburg, Miss., to construct 35 mi. gravel, sand-clay and stone roads; D. K. Caldwell, County Engineer.

Tenn., Rusk.—Cherokee county, Dist. No. 1, defeated previously noted \$150,000 bonds to construct roads.

Tenn., Tyler.—Smith county defeated lately noted bonds for road construction.

Va., Isle of Wight.—Bids received at office of Cash. Bank of Windsor, Windsor, Va., until Nov. 29 to construct about ½ mi. of gravel road through Windsor; G. P. Coleman, State Highway Commr., Richmond, Va. (See Machinery Wanted—Road Construction.)

W. Va., Wellsburg.—Brooks County Commissioners will engage engineer to supervise construction of roads; will vote on \$600,000 bonds.

SEWER CONSTRUCTION

Ala., Birmingham.—Comms. adopted ordinance providing for construction of sanitary sewers at Fairfield; estimated cost \$300; Julian Kendrick, City Engr.

Ala., Camden.—City will vote Dec. 6 on \$2250 bonds for sewer construction; Edgar B. Kay, Engr., Tuscaloosa, Ala. (See Water-works.)

Ala., Citronelle.—City receives bids until Nov. 30 to construct previously noted sewer system; includes 23,765 ft. 8 and 10-in. sewers, 54 manholes and 10 lampholes; also sewage disposal plant; Edgar B. Kay, Engr., Tuscaloosa, Ala. (See Machinery Wanted—Water-works and Sewer System.)

Ark., Heber Springs.—City let contract Inland Construction Co., Chandler, Okla., at \$33,550 to construct sewer system; B. R. Alexander, Engr. (Lately noted.)

D. C., Washington.—Comms. District of Columbia, 509 Dist. Bldg., will construct 300 lin. ft. trunk sewer, 3-ft. diam., and 12,000 lin. ft. pipe sewer, 24-in. to 10-in. diam.; bids until Nov. 29. (See Machinery Wanted—Sewer Construction.)

Fla., Fort Myers.—City did not vote bonds for sewer construction. (Recent report incorrect.)

Fla., St. Cloud.—City, W. N. Garner, Mayor, engaged Wilbur A. Ginn, Sanford, Fla., to prepare preliminary plans for previously noted sewer construction; vote on bonds contemplated. (See Water-works and Machinery Wanted—Water, Sewer and Electric-plant Supplies.)

La., Donaldsonville.—A. W. Jackman applied for municipal franchise to construct sewer system.

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Md., Crisfield.—City let contract Ezra B. Whitman, 1319 Fidelity Bldg., Baltimore, Md., for engineering work on proposed sewer system.

Mo., Grantsville.—Town contemplates constructing sewer system. Address Town Clerk.

Okla., Commerce.—City contemplates sewer construction; Benham Engineering Co., Oklahoma City, Engr.

Okla., Oklahoma City.—City let contract Chas. Deir at \$3300 to construct 3000 ft. lateral sewer in Harndale Addition.

Okla., Tulsa.—City will construct sanitary sewer system, including laterals, outlets, etc., in Sewer Dist. Nos. 102 and 103; bids at office of City Auditor until Nov. 29; T. C. Hughes, City Engr. (See Machinery Wanted—Sewer Construction.)

Tenn., Chattanooga.—North Side Business Men's League, J. S. Bell, Pres., will construct sewer.

Tenn., Kingsport.—City contemplates constructing sanitary sewer system. Address The Mayor.

Tenn., Park, R. Station Knoxville.—City will construct 21 sewer laterals; John A. Anderson, Recorder, receives bids until Nov. 29; \$10,500 bond issue; property owners to contribute about \$7000. (See Machinery Wanted—Sewer Construction.)

Tex., Houston.—City let contract Herman & Nelson to construct storm sewers on Garrett St. from West Alabama to Ross Ave. and on Ross Ave. from Garrett to Jack St.; appropriated \$2800.

Tex., Kaufman.—City let contract to E. L. Lutton, Dallas, Tex., at \$19,977.43 to construct sewer system. (Bids noted in October.)

Va., Richmond.—Chas. E. Bolling, City Engr., submitted report to Administrative Board estimating cost of straightening sewers and cover in Shockoe Creek from river to 7th and Hospital Sts. at \$1,085,000; plan follows natural course of creek, with right of way of 60 ft. on either side and depth of 7 ft.; Board may recommend bond issue; work on contracts for covering creek, etc., reported at various times, is progressing.

W. Va., Kenova.—City will receive bids about Dec. 23 to construct sewer system; \$5,000 bonds lately noted voted; Oliver & Maupin, Engrs., Huntington, W. Va.

TELEPHONE SYSTEMS

Fla., Miami.—City let contract to Morris Machine Works, Baldwinville, N. Y., to install pumping station; cost \$35,000.

Okla., Newkirk.—Pioneer Telephone & Telegraph Co., Oklahoma City, will construct special telephone system to oil field northwest of Newkirk.

S. C., Orangeburg.—Southern Bell Telephone & Telegraph Co. (main office, Atlanta, Ga.) will prepare plans for improvements, including central telephone exchange, underground wire, common battery system, etc.

Tex., El Paso.—Tri-State Telephone Co. will erect addition to Texas St. Bldg., build garage and construct brick wall enclosing entire property.

TEXTILE MILLS

Ala., Wetlowee.—Knit Goods.—W. M. Dolson may install knitting plant. (See Machinery Wanted—Knitting Machinery.)

Ga., Columbus.—Hosiery Yarn.—Bibb Mfg. Co. let contract T. C. Thompson Co., Greenville, S. C., to construct buildings (costing probably \$250,000) for 18,000-spindle additional mill; plans and specifications by Park A. Dullis Co., Archt.-Engr., Atlanta, Ga. (Lately noted to build 18,000-spindle addition.)

N. C., Bladenboro.—Cotton Goods.—Bladenboro Cotton Mill, J. L. Bridger, Gen. Mgr., will build addition to plant and install machinery costing \$50,000; ordered equipment.

S. C., Union.—Cotton Cloth.—Monarch Cotton Mills will add about 11,000 spindles and accompanying looms, increasing equipment to about 50,000 spindles and 1826 looms; has let contract E. B. Cheshire, Union, to build 40 dwellings of 2 to 6 rooms each.

Tenn., Chattanooga.—Cotton Yarn.—G. H. Miller and John Stalgrmaier of Chattanooga, Albert G. Thatcher of Philadelphia, Pres., of Coosa Mfg. Co., Piedmont, Ala., and Alfred Thatcher, Mgr. of Standard Processing Co., Ridgedale, Tenn., are formulating plans for sea island and lisle cotton-yarn mill; invest \$250,000. (G. H. Miller and associates lately reported planning yarn mill.)

Tenn., South Pittsburgh.—Hosiery.—Aycock Hosiery Mills will build 50x40-ft. dyehouse addition of concrete-brick construction; has

let contract to E. H. Crumbliss; will install dyeing machinery for hosiery.

WATER-POWER DEVELOPMENTS

Ala., Florence.—Lauderdale Power Co. let contract to Allentown Engineering Co., Jefferson Bldg., Florence, to construct hydro-electric plant on Cypress Creek; develop water-power in connection with subdivision of Allentown industrial site and location of manufacturing industries; plant estimated to cost \$130,000; development plan lately noted. (See Machinery Wanted—Electrical Equipment, etc.)

Ark., Batesville.—H. C. Couch, Prest., Arkansas Light & Power Co., will endeavor to secure contract from Government to utilize power from Lock and Dam No. 1 at Batesville; proposes to furnish power to operate municipal electric-light plant and to factories in city.

N. C., Elkin.—Chatham Mfg. Co. will install new water-wheel of 100 H. P. and 90 K. W. generator at established water-power plant.

WATER-WORKS

Ala., Camden.—City will vote Dec. 6 on \$15,000 bonds for water-works, \$2250 for sewers and \$4250 for street improvements; Edgar B. Kay, Engr., Tuscaloosa, Ala.

Ala., Citronelle.—City receives bids until Nov. 30 to construct previously-described water system; includes power-house, steel pressure tank, reinforced concrete receiving reservoir, oil engine, pump, compressor, 28 fire hydrants, 8830 ft. 6-in. pipe, 2640 ft. 8-in. cast-iron pipe and 10,000 ft. galvanized pipe; valves, etc.; Edgar B. Kay, Engr., Tuscaloosa, Ala. (See Machinery Wanted—Water-works and Sewer System.)

Ala., Fairhope.—City, A. O. Berglin, Mayor, will vote on \$8000 bonds for previously-noted water-works improvements; Edgar B. Kay, Engr., Tuscaloosa, Ala.

Ala., Florence.—City voted \$210,000 bonds to purchase Florence Water Co.'s works and install filtration plant; C. E. Jordan, Commr. Public Property. (Lately noted to vote.)

Ala., Moulton.—City Council granted franchise to Moulton Water-Works Co. to construct water-works; purchased machinery; secure water from Gibson Spring.

Ark., Pocatontas.—City is having preliminary plans and estimates for lately-noted water-works prepared by Dabney Engineering Co., Memphis, Tenn.

Fla., Lakeland.—City, J. R. Boulware, Secy., Bond Trustees, will construct additions to fire, water and electric systems; includes water-works pump, air compressor and lifts, artesian-well pump, drilling and casing, boilers, electric-generating unit, surface condensing equipment, pipe, fittings, valves, etc.; bids until Dec. 17; Schofield Engineering Co., Engr., Philadelphia, Pa. (See Machinery Wanted—Fire, Water and Electric Systems.)

Fla., Webster.—Town Council is considering granting of franchise to construct water, electric-light and cold-storage plants. Address Town Clerk.

Fla., St. Cloud.—City, W. N. Garner, Mayor, engaged Wilbur A. Ginn, Sanford, Fla., as Const. Engr. to prepare preliminary plans, specifications and estimates for improvements, including paving of several streets, sewage-disposal plant, water-works and electric-lighting plant; bond issue proposed; Fred B. Kenney, City Clerk; lately noted. (See Machinery Wanted—Water, Sewer and Electric-plants Supplies.)

Ga., Savannah.—E. R. Conant, Ch. Engr., is reported to have recommended improvements to water-works estimated to cost \$200,000.

Ky., Henderson.—City Council ratified contract to construct filter plant costing \$50,000. Address The Mayor.

Ky., Williamsburg.—City defeated \$35,000 water-works bonds. C. G. Ellison, Mayor. (Lately noted.)

Miss., Clarksdale.—City, M. W. Purnell, Clerk, asks bids until Dec. 14 on materials, including water-works pump, etc.; in July city was noted voting bonds for improvements, including enlargement of water plant; Engr. W. C. Shurger Engineering Co., Meridian, Miss. (See Machinery Wanted—Power-plant Equipment; Railway Equipment.)

Okla., Commerce.—City will vote on bonds for water-works; estimated cost \$40,000; Benham Engineering Co., Oklahoma City, consulting and appraising engineer.

Okla., Henryetta.—City voted \$100,000 bonds to improve and extend water-works; will ex-

tend water main to North Canadian River, 5 mi. from present reservoir; water will be carried in 12-in. main from river to filtration plant with capacity of 1,000,000 gals. daily; probably 2 units of plant will be built at once and others added as demand for water increases; M. A. Berman, City Engr., and associates prepared plans.

Tenn., Henderson.—City will drill 10-in. wells; probable depth 100 to 250 ft.; E. M. Braden, City Recorder, receives bids until Dec. 3; Frank L. Wilcox, Engr., Syndicate Trust Bldg., St. Louis, Mo. (See Machinery Wanted—Well Drilling.)

Tex., Beaumont.—City let contract Spence & Howe Construction Co. to lay water mains across Neches River, extending present intake to Bunn's Bluff; estimated cost of construction \$10,860 and of material \$8000. C. L. Scherer, City Engr.

Tex., Fort Worth.—City officials, after conference with Holman & Laird, Engrs., St. Louis, Mo., decided to construct Lake Worth conduit entire distance from city to reservoir; estimated to cost \$172,000 to finish conduit, enlarge filtering plant and provide aeration beds; Hedges Construction Co., Contr., Springfield, Mo. (Lately noted.)

Tex., Houston.—City Water Commr., Dave Fitzgerald, announced plans for drilling 3 artesian wells on 53-acre tract adjoining Highland Park, installing pumps and erecting pumphouses for North Side auxiliary water plant, increasing daily water supply 3,000,000 gals.; total daily output after completion of station 9,000,000 gals.; require 1630 ft. of pipe to connect water from new plant with city mains through Glen Park and N. Main St. pipe lines; cost of plant \$35,000.

Tex., Mart.—City, J. L. Vaughn, Mayor, will issue \$18,000 bonds for water-works extension.

Tex., Trinity.—City contemplates installing water-works. Address The Mayor.

Tex., Tyler.—City Com. decided to construct water-works costing \$250,000; site of main reservoir 6 mi. from city; proposes to double capacity of present system and provide for 75,000 population; contemplates vote within 60 days on \$250,000 bonds. (City lately noted as having designs made by Henry E. Elrod, Southwestern Life Bldg., Dallas, Tex.)

Va., Hopewell.—Spring Garden Water Corp., capital \$300,000, chartered; H. P. Stratton, Pres.; Robt. D. Budd, Secy.; both of Petersburg, Va.

WOODWORKING PLANTS

Ala., Mobile.—Hardwood Products.—Hallett Mfg. Co. will rebuild hardwood products plant reported noted burned at estimated loss of \$30,000.

Ky., Louisville.—Veneer and Panels.—Indiana Veneer & Panel Co., New Albany, Ind., purchased 6-acre site on which to build veneer and panel plant to cost \$40,000.

La., Monroe.—Staves.—Ouachita Stave Co., capital \$6000, inceptd. to operate stave, saw and planing mills; Sam B. Meek, Pres., Warren, Ark.; John J. Potts, V.-P., Monroe, La.; J. R. S. Meek, Secy.-Treas., Warren, Ark.

La., Morgan City.—Boxes.—Waddell-Williams Lumber Co., representing other interests, purchased site on which to build box factory; use tupelo boxwood.

La., Shreveport.—Sash, Doors, etc.—Allen Mfg. Co. (lately noted as securing site for erection of buildings) will remove present plant to Cedar Grove addition (of Shreveport); will erect frame building, cost about \$20,000; has all needed equipment of machinery and mill supplies.

Tenn., Ooltewah.—Excelsior.—W. Hall Moss contemplates operation of excelsior mill. (See Machinery Wanted—Excelsior Machinery, etc.)

Tenn., Fayetteville.—Buggies.—Robinson-McGill Carriage Co., T. M. Robinson, Pres.-Mgr., Nashville, Tenn., let contract to T. H. Logan, Fayetteville, to erect lately-noted two-story 192x90-ft. brick salesroom; cost \$12,000; retail buggies and harness.

Va., Buckroe Beach.—Barrels.—Holston, Lewis & Gordon, capital \$10,000, inceptd.; H. F. Lewis, Pres.; Cecil Holston, Secy.; both of Rip Raps, Va.

Va., Martinsville.—Furniture.—American Furniture Co., A. D. Witten, Pres., increased capital stock from \$200,000 to \$500,000.

Va., Fort Norfolk.—Boxes, etc.—G. A. Smith, Pres., South Hill Mfg. Co., South Hill, Va., purchased property comprising 4½ acres, with several brick and frame buildings of mill construction containing 45,000 sq. ft. floor space; will erect additional buildings; install lumber and box manufacturing plant; estimated cost \$100,000.

FIRE DAMAGE

Ala., Eutaw.—Greene County Warehouse Co.'s warehouse; loss \$25,000.

Ala., Greensboro.—H. G. Shadburn's barn, 5 miles from Greensboro.

Ala., Hartselle.—Public Schol. Address The Mayor.

Ala., Mobile.—Hallett Mfg. Co.'s plant; loss \$30,000.

Ala., Phenix City.—Jerry Mullins' residence on 13th St.

Ala., Union Springs.—Birmingham & Southeastern Ry.'s passenger and freight depots (W. M. Blount, Prest.); Southern Cotton Oil Co.'s buildings, and other buildings; total loss about \$100,000.

Ark., Stamps.—Bodeau Lumber Co.'s warehouses and commissary; loss about \$200,000.

Fla., Leesburg.—T. E. Montgomery's residence, owned by Arthur Lee.

Fla., Tavares.—St. Clair Abrams Theater; loss \$50,000.

Fla., Tavares.—Tavares Opera-House, containing Tavares Herald's printing plant; loss on latter \$2500.

Ga., Douglas.—John L. Wilcox, Sr.'s, barns and outhouses; loss \$4000.

Ga., Fairmount.—Fairmount Warehouse & Storage Co.'s building; loss \$15,000 to \$18,000.

Ga., Fairmount.—Farmers' Supply Co.'s warehouse; loss about \$17,000.

Ga., Macon.—Georgia Southern & Florida Ry.'s general offices and freight sheds; loss \$15,000; J. A. Griffin, Engr. M. W. and S.

Ga., Nichols.—Kirkland Building; loss \$30,000.

Ga., Rock Mart.—High school; loss about \$25,000. Address School Trustees.

Ga., Savannah.—D. C. Beasley's general repair shop; Bodenbaugh's Auto Repair Shop; county storehouse; total estimated loss \$10,000.

Ga., Waycross.—P. K. Groff's residence.

Ky., Bowling Green.—Robt. Crump's stock barn; loss \$3000.

Ky., Henderson.—Chas. F. Kleider's barn; loss \$3000.

Ky., Hickman.—Dr. H. F. Prather's residence, loss \$4000; S. L. Dodd's 3 residences, loss \$10,000.

Ky., Lexington.—T. F. Dunlap & Son's stock barn on Old Frankfort pike, 9 miles from Lexington; loss \$5000.

Ky., Louisville.—Residence of Phillip Crutcher of Crutcher Bros. Freight Transfer Co.; loss \$8000.

Ky., Mayasville.—Charles Shannon's residence near Cane Run.

Ky., Wallsend.—Berry Howard's residence.

Md., Baltimore.—Thomas H. O'Connor's paper warehouse at 445 Guilford Ave.; loss several thousand dollars.

Md., Baltimore.—Parkway Garage, Evans Chapel Rd. and Roland Heights Ave.; estimated loss \$8000.

Miss., Charleston.—J. W. Patterson's residence; W. G. Wyatt's residence.

Miss., Marietta.—W. P. Pharr's gin and saw mill; estimated loss \$1500.

Miss., Meridian.—Residences of J. N. McArthur, Grady Drew and H. P. Humphries at 54th Ave. and McArthur St.

Miss., Merigold.—T. J. Davis' residence; Dr. A. M. Wynne's residence; Frank Wynne's residence; loss \$15,000.

Miss., Picayune.—W. S. Tate's residence.

Miss., Stillmore.—Finkbine Lumber Co.'s turpentine still; estimated loss \$7000.

Miss., Webb.—Brower Hotel; residences of R. W. Sandifer and James D. Waller.

Mo., Holden.—State Bank of Holden's building was not damaged by fire, as lately noted.

Mo., Rich Hill.—J. S. Bell's granary and shed buildings; estimated loss \$6000.

N. C., Charlotte.—W. I. Henderson's two store buildings at 10-14 N. College St.; loss \$10,000.

N. C., Fountain.—R. A. Fountain Co.'s store; loss \$15,000.

N. C., Hubert.—A. F. Farnell's residence.

N. C., Mount Airy.—Office building at the quarry occupied by North Carolina Granite Corp., Lemmerman & Hoffman and others.

N. C., Newbern.—Martha Turner's residence on Burn St.

N. C., New Bern.—Norfolk Southern R. R.'s shops; total loss \$75,000, including \$20,000 on buildings; F. L. Nicholson, Ch. Engr., Norfolk, Va.

N. C., Roxboro.—T. H. Jeffers' residence; loss about \$3500.

N. C., Warsaw.—Carlton Hotel; Henry Swinson's residence; A. W. Newcomb's shop and tobacco truck factory; total loss \$10,000.

N. C., Winston-Salem.—Abner Smother's residence on Clemmons Rd., about 5 mi. from Winston-Salem.

N. C., Wilson.—R. E. Hagan Metal & Roofing Co.'s building; loss \$10,000.

Okla., Afton.—Wheatland Grain & Elevator Co.'s grain elevator.

Okla., Altus.—Interstate Compress Co.'s compress; estimated loss \$100,000.

S. C., Paris, R. D. from Greenville.—S. G. Black's residence.

S. C., Claremont.—S. W. Gillespie's warehouse.

S. C., Eutawville.—S. M. Eaden's residence.

S. C., Gray Court.—Bartlett Owings' residence near Gray Court.

Tenn., Humboldt.—E. W. Hawks' residence; loss \$3000.

Tenn., Martin.—J. D. Bainbridge's tobacco warehouse.

Tenn., Nashville.—Building at 421½ Union St., owned by Mrs. K. J. Swann and occupied by Mrs. E. M. McElroy and Parrish Shoe Co.; loss \$13,000.

Tenn., Paris.—J. J. Nelson's residence in Henry county near Chickasaw.

Tenn., Russellville.—W. P. S. Beaver's residence.

Tex., Belton.—J. A. Long's residence, owned by J. Linn Thomas, College Station, Texas.

Tex., Granbury.—M. H. Shanley's residence, occupied by Harold Riley.

Tex., Houston.—E. S. Dixon & Co.'s stock-feed elevator; estimated loss \$2500.

Tex., Jacksonville.—W. H. Willis' residence.

Tex., Lufkin.—Falvey-White Grain Co.'s warehouse; loss \$12,000.

Tex., Naples.—W. M. Harris' residence.

Tex., Navasota.—W. H. Saunders' residence.

Tex., Normangee.—Nixon Dry Goods Co.'s store; building owned by J. B. Batson; loss \$3000.

Tex., Potosi.—W. L. Simpson's store and dwelling; loss \$5000.

Tex., Texarkana.—Red Lick Dist. School. Address School Trustees.

Tex., Van Alstyne.—Public school. Address School Board.

Va., Danville.—C. H. Daniel's residence at Brosville; loss \$3000.

Va., Petersburg.—J. W. Thomas & Co.'s store at 125 N. Sycamore St.; loss about \$5000.

Va., Stephen City.—David C. Dinges' barn.

Va., Nokesville.—D. B. Grisso's barn.

W. Va., Bluefield.—B. P. O. E.'s building; loss \$10,000.

W. Va., Wellsburg.—Martin Bros.' store, building owned by Charles Patterson.

DAMAGED BY FLOOD

Tenn., Clinton.—Anderson county steel bridge in course of construction over Clinch River on Clinton-Knoxville Pike; estimated loss \$3000 to \$4000. Address County Commrs.

BUILDING NEWS

BUILDINGS PROPOSED

APARTMENT-HOUSES

Fla., Tampa.—W. C. Black, Tampa, and W. T. Harrison, Clearwater, Fla., have plans by Fred J. James, Tampa, for apartment-house; concrete and brick; 109x109 ft.; 33 suites of 3 and 4 rooms; California style; sleeping porches; 5 stories; freight and passenger elevators; cost \$75,000; lower floor for 7 stores.

Md., Baltimore.—P. E. Kesterson will erect apartment-house at Carlisle Ave. and Denison St.; 3 stories; brick; 40x60 ft.; cost about \$45,000; following contractors will estimate on construction: McLaughlin Bros., 915 Bolton St.; Turner Bros., 706 Union Trust Bldg.; Murray & Haynes, 1711 McCulloh St.; Gladfelter & Chambers, 729 Roland Ave.; Burns & Russell, 1112-16 Cathedral St., all of Baltimore.

Mo., Kansas City.—Progressive Investment Co., J. W. Good, Pres., acquired site 134x136 ft. at Montgall Ave. and Linwood Blvd., and will erect 3 six-apartment flats.

Mo., Kansas City.—W. Lee Smith, Gloyd Bldg., will erect 2 six-apartment buildings at 11th St. and Park Ave.; investment about \$30,000.

Mo., St. Louis.—John Roberts Realty Co., 718 Holland Bldg., John A. Shober, Pres., will erect 3 apartments at 4048-50-60 Cleveland Ave.; 45x70 ft.; brick; composition roof; steam heat; electric lights; M. H. Lohrmann, draftsman, 1328 Chemical Bldg., St. Louis. Address Mr. Shober. (Lately noted.)

Tex., El Paso.—P. E. Bogarbus will erect apartment-house in Sunset Heights; cost \$7000.

Tex., Waco.—W. F. Crawford, 1824 Austin St., has plans by Milton Scott, Waco, for apartment-house at 20th and Austin Sts.; 65x133 ft.; brick veneer; paper and gravel roof; oak floors; cost \$20,000; heating plant \$1500; lighting plant \$1500; bids opened Dec. 10; construction begins Dec. 15. Address owner, care of Texas Lumber & Loan Co. (Lately noted.)

Va., Hopewell.—Moore Combination Stores will erect building for rooming-house, etc. (See Stores.)

Va., Danville.—Dr. T. W. Edmunds, W. Main St., has plans by Pritchett & Henderson, Dudley Bldg., Danville, for apartment-house on W. Main St.; 46x80 ft.; brick; tar and sing roof; wood floors; steam-heating plant, \$1000; contract let about Dec. 1. Address architects. (Lately noted.)

Va., Norfolk.—John L. Roper has plans by Ferguson, Callow & Wrenn, Royster Bldg., Norfolk, for apartment-house at Westminster and Colonial Ave.; 3 stories; fireproof; 6 suites.

W. Va., Logan.—B. L. Holland will erect apartment-house 40x60 ft. and store and office building 50x100 ft. to replace structures lately noted damaged by fire; brick; composition roof; wood floors; cost \$4000 to \$10,000, respectively; heating plant \$1000; construction begins in spring.

ASSOCIATION AND FRATERNAL

Mo., St. Louis.—Y. M. C. A. plans to erect Colored Branch Y. M. C. A. building; cost \$125,000.

Tex., Wichita Falls.—A. F. & A. M. is having plans prepared by Field & Clarkson, Wichita Falls, for building; 3 stories; face brick and terra-cotta; composition roofing; automatic elevator; cost \$50,000; contract let in December.

Va., Hopewell.—Hopewell Lodge No. 1599, Loyal Order of Moose, City Point, Va., will erect clubhouse; about 50 rooms; wood construction; wood roof and floors; bids opened about Dec. 15; construction begins about Jan. 15; cost \$25,000.

BANK AND OFFICE

Ga., Macon.—Georgia Southern & Florida R. R., J. A. Griffin, Engr. M. W. and S., will rebuild general offices and freight sheds noted damaged by fire.

Ky., Albany.—Bank of Albany will erect bank building to replace structure lately noted damaged by fire; brick; marble floors; furnace heat; cost \$6000; construction begins about Mch. 1; other details not determined.

N. C., Mt. Airy.—North Carolina Granite Corporation, J. D. Sargent and Lemmerman & Hoffman, will rebuild office at the quarry reported damaged by fire.

Tenn., Memphis.—F. G. Jones writes Manufacturers Record: "Not considering either erection or improvements of buildings at this time." (Lately noted having plans prepared for 6-story building to cost \$75,000.)

Va., Hopewell.—Joe Simon and others will erect store and office building. (See Stores.)

Va., Pulaski.—Gary Laughon and C. H. Hoback will erect store and office building. (See Stores.)

W. Va., Logan.—B. L. Holland will erect

store and office building. (See Apartment-houses.)

CHURCHES

Ala., Piedmont.—Methodist Church will erect church and parsonage; cost \$10,000; F. M. Formby, E. C. Harris and T. M. Sharp, Bldg. Com.

Ga., Americus.—First and Saint Paul Methodist Church plans to erect building on S. Lee St.; probably brick; tile roof; cost \$6000 to \$8000; address John Sheffield, Chmn. of Bldg. Com. (Lately noted.)

Ga., Atlanta.—Warren Chapel, M. E. Church, Rev. Elijah H. Oliver, Pastor, 27 Gammon Ave., has plans by Chas. H. Hopson, 1302 Healey Bldg., Atlanta, for building; brick veneer; metal-shingle roof; seating capacity 550; furnace heat; cost \$7000 to \$8000.

Ga., Bainbridge.—Jewish Congregation has plans by W. H. Kwieckl, Bainbridge, for synagogue; 50x50 ft.; brick walls; interior plaster; metal roof; wood joist floor construction; cost \$5000 to \$6000. Address architect. (Lately noted.)

Ky., Ashland.—Methodist Episcopal Church has plans by Verus T. Ritter, Huntington, W. Va., for Sunday-school; 100x145 ft.; 1 story, basement and balcony; concrete foundation; stone and brick walls; slow-burning floors; brick and wood partitions; brown stone exterior finish; bids not considered until Jan. 1.

La., Gretna.—St. Joseph's Improvement Assn., organized with Jno. E. Fleury, Chmn.; Jas. P. Morgan, Vice-Chmn.; will improve St. Joseph's Church property.

N. C., Black Mountain.—G. W. Hinshaw, Winston-Salem, N. C., is reported promoting erection of tabernacle at Black Mountain; steel; seating capacity, 20,000.

Okla., Chickasha.—Second Baptist Church will erect addition to building; Rev. H. P. Bailey, pastor.

Tex., Abilene.—College Heights Baptist Church, Rev. J. C. Burkett, pastor, plans to erect building; construction to begin in spring; cost \$30,000; A. B. Collins, P. B. Ford and others, Building Comm.

Tex., Dallas.—Greek Orthodox Church, temporary location 1511 Wood St., will erect building; cost about \$25,000; P. H. Spuris, Gus G. Casten, Jas. D. Pantaze and others, Com.

Tex., Thorndale.—Methodist Church has plans by Roy L. Thomas, Austin, Tex., for building; frame and stucco; 45x50 ft.; cost about \$3500; materials purchased by Contr.

Va., Norfolk.—St. Paul's Female Academy will erect chapel, home for Sisters of Charity, etc. (See Schools.)

CITY AND COUNTY

Fla., Clearwater.—Courthouse, Jail, etc.—Pinellas county will probably call election in Dec. on \$150,000 bonds to erect courthouse and jail; also probably call election on bonds for home for delinquent and dependent children; also considering bond election for other improvements.

Ga., Blackshear.—Jail.—Comms. of Roads & Revenues of Pierce county will erect jail; J. A. Strickland, B. D. Brantley and J. W. Gray, Bldg. Com., to select plans and superintend building; will soon let contract.

La., New Orleans.—Conservatory.—Audubon Park Commission has plans by Julius Koch, New Orleans, for conservatory in Audubon Park; 75x150 ft.; steel and glass; hot-water heat; cost \$10,000; Sam Stone, Jr., Chmn. Grounds Com., 602 Liverpool & London & Globe Bldg., New Orleans. (Lately noted.)

Va., Lynchburg.—Armory.—City is having plans prepared by W. R. Burnham, Lynchburg, for addition to armory at 815-17 Clay St.; cost \$3000.

Va., Norfolk.—Armory.—City is considering plans by Browne & Tazewell, National Bank of Commerce Bldg., Norfolk, for armory for Fourth Virginia Infantry; fireproof; brick exterior walls; Indiana limestone trim; reinforced concrete floors supported on concrete columns; metal doors and windows; drill hall floors laid on sleepers set in concrete; basement under entire building; 3 stories; drill hall 125x175 ft.; bowling alleys, swimming pool 30x90 ft., etc.

COURTHOUSES

Fla., Clearwater.—Pinellas County Commrs. will probably call election in Dec. on \$150,000 bonds to erect courthouse and jail. (See City and County.)

Tex., Galveston.—Treasury Dept., Jas. A. Wetmore, Acting Supervising Archt., Wash-

ington, D. C., opens bids Dec. 30 to remodel courthouse. (See Government and State.)

Tex., Sweetwater.—Nolan county votes Dec. 18 on \$150,000 bonds to erect courthouse. Address County Commrs. (Lately noted.)

DWELLINGS

Ala., Birmingham.—Crawford Johnson will erect 1-story brick building at 11th Ave. and 16th St.; cost \$3500.

Fla., De Land.—Theo. A. Page has plans by Francis M. Miller, Box 201, De Land, for lately-noted residence on E. New York Ave.; 67x30 ft.; stucco on frame; red or green shingle tile roof; wood and tile floors; hot-water heat; contract let Nov. 30; construction begins in December; cost \$7000. Address Architect. (See Machinery Wanted—Roofing.)

Fla., Jacksonville.—William Mier will erect residence; 1 story; frame; cost \$3300.

Fla., Jacksonville.—Buckland & Fitchner will erect residence on Boulevard between 9th and 10th Sts.; 2 stories; brick veneer; cost \$3000.

Fla., Kissimmee.—J. W. Miller will erect residence; 2 stories; 10 rooms; cypress shingle roof; town electric lights; cost \$400; bids opened Dec. 15; construction begins Jan. 1. Address owner. (Lately noted.)

Ga., Fort Valley.—W. M. Wright will erect residence; 7 rooms; frame; shingle roof; electric lights; P. E. Dennis, Archt., Macon, Ga.

Ga., Macon.—R. B. Dunwoody, Macon Daily Telegraph, has plans by Nisbet, Brown & Dunwoody, Macon, for residence on English Ave. to replace structure lately noted damaged by fire; 6 rooms; brick veneer.

Ga., Macon.—Ralph T. Birdsey has plans by Hupp & Shelverton, Fourth National Bank Bldg., Macon, for residence; 2 stories; frame; hardwood floors; probably steam heat; tile baths; cost \$6000.

Ga., McDonough.—R. L. Turner, Cashier First National Bank, will erect residence; 2 stories; brick veneer; cost about \$10,000; architect not selected.

Ga., McDonough.—D. T. Carmichael will erect residence; probably 2 stories.

Ga., McDonough.—W. H. Peace, agent Southern Ry., will erect bungalow.

Ga., Milledge.—Alexander Boyer has plans by Hupp & Shelverton, Fourth National Bank Bldg., Macon, for residence; frame; electric lights; cost \$3000.

Ga., Tennesse.—M. Hermann has plans by Lella Ross Wilburn, Peters Bldg., Atlanta, Ga., for residence; 1 story; frame; 8 rooms; press-brick foundation; hardwood floors; electric lights; cost about \$3500.

Ky., Louisville.—W. E. Kaye will erect 2 brick-veneer dwellings at 1200-02 Cherokee Rd.; cost \$4000.

Md., Baltimore.—Jos. L. White Realty Co., Potomac and Monument Sts., will erect 3 dwellings in 600 block N. Ellwood Ave.; 2 stories; brick; two 14.4x17 ft.; two 14.3x16 ft.; remainder 13.10x14 ft.; cost \$35,000; Chas. Broring, Archt., 9 N. Potomac St., Baltimore.

Md., Baltimore.—Dr. Llewellyn Barker is having plans prepared by E. L. Palmer, Jr., 408 Roland Ave., Roland Park, Md., for residence at Guilford; 2½ stories; brick and stucco.

Md., Baltimore.—E. J. Gallagher Realty Co., 919-20 Munsey Bldg., will erect 140 dwellings on Ellwood Ave. and Robinson St. between Jefferson St. and Philadelphia Ave.; 2 stories; brick.

Md., Baltimore.—Annex Construction Co. has plans by G. Bernard Lohmuller, 175 N. Broadway, Baltimore, for 26 two-story dwellings at 301-51 E. 27th St.; 24 13.9x44x23 ft.; 2 15.4x44x23 ft.; cost \$26,000.

Md., Baltimore.—Charles B. Burdette, 239 W. Lexington St., will erect three 2-story brick dwellings at Lafayette and Dukeland Aves.; cost about \$2500.

Md., Baltimore.—Katherine Naylor has plans by Allen H. Potts, 901 Coldspring lane, Roland Park, Md., for 6 2-story dwellings at 3862-72 Falls Rd.; ornamental brick; 14x14 ft.; cost \$1800 each.

Md., Baltimore.—John H. Jenkins, Belmont Ave. and Belair Rd., will erect 5 dwellings at Jenkins and Belmont Aves.; 2 stories; porch fronts.

Miss., Clarksdale.—Albert Nachman let contract to Sunflower Lumber Co., Clarksdale, to erect 2 dwellings; 5 rooms each.

Mo., Kansas City.—A. Barr will erect residence at 2308 E. 30th St.; 2 stories; brick; cost \$3000.

Mo., Kansas City.—George C. Hill will erect residence; 2 stories; stucco; cost \$500.

Mo. Kansas City.—N. H. Oldham will erect 2-story stucco dwelling at 401 Oakley St.; cost \$4500.

Mo. Kansas City.—W. Pate Kruse will erect 2-story stucco dwelling at 322 Van Brunt St.; cost \$4500.

Mo. Kansas City.—R. R. Brewster of Brewster, Kelly, Brewster & Buchholz, has plans by John Van Brunt, Kansas City, for dwelling at 53d St. and Wornall Rd.; colonial style; 2 stories and attic.

Mo. Kansas City.—Kenneth S. Duncan of Duncan Shingle Co. will erect residence at 385 W. 56th St.

Mo. St. Louis.—Trustees of Missouri Botanical Garden will erect 3 dwellings on Flora Blvd.

Mo. St. Louis.—Louis Rosen, 5218 Raymond St., will erect residence; 12 rooms; brick; hardwood floors; hot-water heat; cost \$15,000 to \$20,000; bids opened in Jan. or Feb.; construction begins in Feb. (Lately noted.)

S. C. Cameron.—Dr. S. J. Summers has plans by and will let contract to R. L. Autley & Son, Cameron, to erect residence on Orangeburg Rd.; 2 stories; 48x34 ft.; wood; galvanized shingle roof; pine floor; open fireplace; cost \$4000; acetylene lighting plant \$50; construction begins in Dec. Address owner. (Lately noted damaged by fire.)

S. C. Columbia.—W. Campbell McLain of Johnston & McLain will erect residence on Green St.

S. C. Columbia.—Jos. A. Walker of M. C. Bath Co. will erect residence at Wheat and Saluda Ave.

S. C. Columbia.—W. E. McGee, 918 Henderson St., has plans by Wilson & Sompayrac, Columbia, to erect residence; 2 stories; 8 rooms; wood and stucco; wood shingle roof; wood floors; grates; also arranged for hot-air heat; cost \$4000; date of opening bids not set.

S. C. Columbia.—Beverly Herbert of Elliott & Herbert will erect residence.

S. C. Columbia.—Gordon Kenna will erect residence on Edisto Ave.

S. C. Columbia.—Chas. H. Barron of Barron, McKay, Frierson & Moffatt will erect residence on Saluda Ave.; brick.

S. C. Greenville.—James H. Morgan is having plans prepared by S. D. Trowbridge, 32 Grant Bldg., Atlanta, Ga., for residence; 2 stories; brick veneer; tile roof; vapor heat; hardwood floors; tile baths and porch; cost \$10,000.

S. C. Paris, R. D. from Greenville.—S. G. Black will rebuild residence noted damaged by fire.

S. C. Robersonville (not a postoffice).—C. L. Cannon has plans by Leila Ross Wilburn, Peters Bldg., Atlanta, Ga., for residence; 2½ stories; hardwood floors; electric lights; furnace; cost about \$4000.

S. C. Spartanburg.—J. L. Fleming will erect residence; 8 rooms; frame; hardwood floors; cost about \$4000; Leila Ross Wilburn, Archt., Peters Bldg., Atlanta, Ga.

Tenn. Russellville.—W. P. S. Beaver will rebuild residence reported damaged by fire.

S. C. Sumter.—C. B. Huff has plans by J. H. Johnson and Fred R. Deal, Sumter, for frame bungalow; cost \$3000.

S. C. Sumter.—Dr. J. Z. Hearon is having plans prepared for residence; 2 stories; frame; cost \$3500.

S. C. Union.—Monarch Cotton Mills let contract E. B. Cheshire, Union, to build 40 dwellings; 3 to 6 rooms each.

Tenn. Loudon.—J. W. Haskins will erect 4 dwellings; construction begun.

Tenn. Loudon.—A. W. Ward will erect 3 cottages; construction begun.

Tenn. Loudon.—W. C. Duff will erect 6 cottages; construction begun.

Tex. Austin.—J. R. Reed is having plans prepared by Roy L. Thomas, Austin, for residence; 2 stories; 7 rooms; frame; hot-air furnace; gas and electric fixtures; cost about \$5000.

Tex. Clarksville.—S. A. Maxfield has plans by C. G. Curtis, 18½ Lamar Ave., Paris, Tex., for residence; cost about \$3000.

Tex. Dallas.—Chandler Bros. will erect two-story 8-room frame residence at 4781 Junius St.; cost \$5000.

Tex. El Paso.—Chas. Hirsch contemplates erecting residence in Golden Hill.

Tex. El Paso.—G. F. L. Beck will erect bungalow in Alamo Heights addition; brick; cost \$5000.

Tex. El Paso.—Myrtle Coblenz is having plans prepared for residence.

Tex. El Paso.—S. K. Albright will erect 7-room bungalow; fireproof; tile kitchen.

Tex. Johnson City.—John D. Kinney will erect bungalow.

Tex. Johnson City.—Geo. Gipson and C. C. Maddox will erect residences.

Tex. Houston.—L. L. Linebaugh has plans by A. DeLisle, Houston, for 2 dwellings; frame stucco; mosaic tile bathroom; cost about \$10,000. (Lately noted.)

Tex. Houston.—John W. Hubert will erect 16-room duplex residence at 1700 Everett St.; cost \$3000.

Tex. Llano.—Geo. M. Watkins is having plans prepared by Roy L. Thomas of Austin for residence; 2 stories; 7 rooms; 35x40 ft.; frame and stucco; hardwood floors; electric fixtures; cost about \$5000. (Lately noted.)

Tex. Childress.—W. A. McLeod plans to erect residence.

Tex. Wichita Falls.—Bert Bean is having plans prepared by Field & Clarkson, Wichita Falls, for residence; frame; cost about \$5000.

Va. Norfolk.—G. T. Taylor will erect brick residence; cost \$5500.

Va. Richmond.—Capitol Realty Co. will erect 3 two-story brick dwellings on the Blvd. between Grove and Hanover Aves.; cost \$20,000.

Va. Richmond.—Virginia Realty & Construction Co. will erect 2-story brick dwelling on Main St. between Granby St. and Allen Ave.

Va. West Point.—West Point Furniture Co. will erect 12-room boarding house for employees.

W. Va. Huntington.—Miller Investment Co. will erect 15 or 20 cottages; contract let in 2 or 3 weeks.

GOVERNMENT AND STATE

Tex. Caddo Lake.—Clubhouse.—State will rebuild clubhouse at Caddo Lake lately burned; Will W. Wood, Game, Fish and Oyster Commr., Austin, Tex.

Tex. Galveston.—Courthouse.—Treasury Dept., Jas. A. Wetmore, Acting Supervising Archt., Washington, D. C., opens bids Dec. 30 to remodel U. S. courthouse (old appraiser's stores); drawings and specifications at office of Mr. Wetmore, as above, and from custodian at Galveston.

Tex. New Braunfels.—Postoffice.—Treasury Dept., Jas. A. Wetmore, Acting Supervising Archt., Washington, D. C., opens bids to erect postoffice; Weston & Kroeger, San Antonio, Tex., are reported lowest bidders; approximate cost \$41,000, exclusive of lighting fixtures; 1 story and basement; brick and stone faced; 4300 sq. ft. ground area; composition roof. (Noted in Sept.)

HOSPITALS, SANITARIUMS, ETC.

Ky. Mt. Sterling.—Montgomery County Medical Society (Dr. R. E. May and others) plans to erect hospital.

Mo. Columbia.—State Board of Health will petition Legislature for appropriation to erect additional ward at State Tuberculosis Sanatorium at State Park.

Tex. Fort Worth.—J. A. Mulholland, County Auditor, receives bids until Dec. 1 to erect 8 tubercular houses to be erected jointly by city and county; plans and specifications at office of H. P. Hayes, County Engr., Court-house.

HOTELS

Ky. Hazard.—D. Y. Combs will resume construction of \$50,000 hotel.

Miss. Meridian.—Mrs. M. L. Edwards contemplates erecting hotel.

Miss. Meridian.—Mrs. M. L. Edwards will erect hotel at 5th St. and 21st Ave.

Okla. Ardmore.—W. H. Whittington is reported to have plans by W. H. Keyser and R. McAttee, Dallas, Tex., for 7-story brick and stone hotel; cost about \$150,000. (Lately noted.)

Va. Norfolk.—Bellamy & Hough are reported to erect hotel at waterfront at Ocean Park.

Va. Virso.—Virso Development Corporation, A. J. Britton, Prest., will erect hotel and office building in connection with land development. (See Land Development.)

Va. West Point.—Dixie Hotel, Mrs. Baer, Prop., will expend several thousand dollars for improvements.

Va. West Point.—Victoria Hotel will expend \$30,000 for improvements; construction begun.

MISCELLANEOUS

Ala. Anniston.—Library.—W. H. Zion is interested in erection of library; marble and brick; tile roof; cement floors; hot-air heat; cost \$10,000; architect not selected; construction not to begin before six months.

Md. Baltimore.—Clubhouse.—Automobile Club of Maryland, 12 W. Mt. Royal Ave., is having tentative plans prepared by Wyatt & Nolting, Keyser Bldg., for building at Mt. Royal Ave. and Cathedral St.; 3 or 4 stories; 53x83 ft.; lower floor for showrooms, upper floors for office and assembly hall to seat 600; H. M. Luzius, Secy.

N. C. Wilmington.—Clubhouse.—Carolina Yacht Club will remodel clubhouse at Wrightsville Beach; H. J. MacMillan, Commodore.

S. C. Columbia.—Clubhouse.—Ridgewood Country Club will rebuild burned clubhouse; 150x75 ft.; brick and frame; tile roof; cement and wood floors; steam or hot-water heat; 2 dumbwaiters; city lights; cost \$15,000; Urquhart & Johnson, Archts., Columbia, may be addressed; bids opened about Dec. 1; construction begins about Dec. 15. (Lately noted.)

Va. Hopewell.—Restaurant.—George Chakos and George Condeyles let contract to erect restaurant and office building; 3 stories; 20x50 ft.; white enamel and tapestry brick; Chas. K. Bryant, Archt., Hopewell.

RAILWAY STATIONS, SHEDS, ETC.

Ga. Macon.—Georgia Southern & Florida R. R., J. A. Griffin, Engr. M. W. and S., will rebuild general offices and freight sheds noted damaged by fire.

SCHOOLS

Ala. Hartselle.—City will rebuild school noted damaged by fire. Address The Mayor.

Ala. Montgomery.—Women's College, Dr. W. M. Swartz, plans to erect dormitory in spring; 120 rooms; cost about \$50,000.

Fla. Gainesville.—A. T. O. Fraternity of Florida will erect chapter-house; cost \$5000 to \$6000.

Fla. Ocala.—Board of State Institutions, Tallahassee, Fla., selected Ocala as location for proposed State Industrial School for girls.

Ga. Hainesville.—City defeated \$60,000 school bonds. (Lately noted.)

Ky. Covington.—Kenton county voted \$150,000 high-school bonds. Address County Commrs. (Lately noted.)

La. Ferriday.—School Trustees are having plans prepared by J. W. Smith, Monroe, La., for school; cost about \$18,000. Address D. C. Strickler, Supt., Vidalia, La., or Mr. Sevier, Ferriday, for further information.

La. Galvez.—Galvez School Dist. plans to erect 4-room school. Address Dist. School Trustees.

Miss. Laurel.—Myrick School Dist. voted \$3500 bonds to erect school; 74x64 ft.; wood; pine-shingle roof; ordinary wood heaters; Dr. D. R. Hunt, Secy., R. F. D. No. 1, Laurel, (Lately noted.)

Miss. Seymour.—Trustees of Harrison-Jackson Consolidated School Dist. will issue \$8000 bonds.

Miss. Yazoo City.—School Trustees will erect high school; accommodations for 200 pupils; brick; composition roof; wood and concrete floors; steam heat; electric lights; cost \$30,000 to \$35,000; will issue \$45,000 bonds.

Mo. Neosho.—City voted \$48,000 bonds to erect high school; Neal Davis, Archt., Neosho.

N. C. Asheville.—Macedonia, Burnam Heights and Mt. Carmel school districts will consolidate; vote Dec. 6 on \$12,000 bonds to erect school at Craggy Station. Address County Board of Education.

N. C. Winston-Salem.—Shady Mount School Trustees will rebuild structure damaged by fire; probably 3 rooms; W. B. Speas, County Supt.

Okla. Ireton.—School Trustees will erect addition to accommodate 40 pupils; D. E. Killian in charge.

S. C. Columbia.—School Board is having plans prepared by J. H. Sams, Columbia, for Blossom St. school to replace previously-burned structure. (Previously noted.)

Tenn. Cookeville.—State Board of Education, Nashville, will soon let contract to erect Cookeville State Normal and Polytechnic School; will remodel building at cost of \$20,000 for administration building, erect 2 \$25,000 dormitories, etc.; total cost \$145,000; Asmus & Norton, Archts., Nashville. (Noted in September.)

Tenn. Nashville.—Ward Belmont College for Women will erect building.

Tex. Austin.—School Board, W. H. Cullen, Prest., will erect high school on Rio Grande St. between 12th and 13th Sts.; 230x140 ft.; Denison interlocking tile with brick facing; asphalt and gravel roof; pine joist floor construction except fireproof corridors; low-pressure vacuum steam heat; conduit lighting system; cost \$80,000; Dennis R. Walsh, Archt., Austin; bids opened Nov. 24. Address Mr. Cullen. (Lately noted.)

Tex. Austin.—State is having plans prepared by Atlee B. Ayres, San Antonio, Tex., for school for blind; probably cottage plan; 15 buildings to include 5 cottages each to accommodate 30 students; main building to contain 16 classrooms, administrative offices, auditorium to seat 500, etc.; kindergarten building; superintendent's house; powerhouse; laundry; infirmary; garage and storehouse; accommodations for 250 students; has \$200,000 appropriation. (Lately noted.)

Tex. Belton.—School Trustees are having plans prepared by J. E. Johnson, 211 Temple State Bank Bldg., Temple, Tex., for school for Summers Mill and Elm Grove School Dist.; 4 rooms; concrete; hollow tile; brick; steel; hot-air heat; cost about \$3000. (Noted in October.)

Tex. El Paso.—School Board opens bids to erect addition to Alta Vista School to practically double capacity Pitts & Deeming, El Paso, are lowest bidders at \$62,000 for building proper; Elliott Engineering Co., El Paso, lowest bidders for heating and ventilating at \$11,350. (Lately noted.)

Tex. Gainesville.—Board of Control, Patrick Henry, Chmn., opens bids about Dec. 20 to erect 4 dormitories for Texas State Girls' Training School; 2 stories and basement; 30x70 ft. plus 28x75 ft.; concrete basement; brick bearing walls; concrete floors; concrete roofing; steam heat; conduit wiring; 2 dumb waiters for each building. Address Ernest B. McAnelly, 1407-08 Southwestern Life Bldg., Dallas, Tex. (Previously noted.)

Tex. Houston.—City has plans by Maurice J. Sullivan, City Archt., Houston, for grade school at Louisiana and Lockland Sts.; 230x190 ft.; brick, tile, wood and reinforced concrete; tar and gravel roof; concrete floors; cost \$60,000; vacuum heating system, \$9000; bids opened Nov. 29. (Lately noted.)

Tex. Tokio, R. D. 2, West.—Alta Vista School Trustees, Waco, Tex., have plans by Edw. H. Reed, 1933 Amicable Bldg., Waco, for building in Tokio School Dist.; 35x84 ft.; Kaloroid roofing; no lighting; cost \$3000; heating plant \$400; bids opened Nov. 30. Address Alta Vista Trustees.

Tex. Waco.—Alta Vista School Trustees have plans by Edw. H. Reed, 1933 Amicable Bldg., Waco, for school; 35x82 ft.; Kaloroid roofing; mill floor construction; cost \$4000; heating plant \$300; lighting \$100; bids opened Nov. 29. (Lately noted.)

Va. Norfolk.—St. Paul's Female Academy will erect building on King St.; brick or stone; probably 4 stories; upper floor for auditorium; also plans to erect home for Sisters of Charity and chapel; construction begins in April.

STORES

Ala. Clanton.—Dr. Arthur Johnson has plans by Walter Langerier, Clanton, for brick store building.

Ark. Newport.—Geo. Brown will erect brick business building; 50x100 ft.

Fla. Tampa.—W. C. Black, Tampa, and W. T. Harrison, Clearwater, Fla., will erect store and apartment building. See Apartment Houses.)

Fla. West Palm Beach.—J. D. Cobb will erect building to contain 4 stores.

Ga. Atlanta.—Greenfield estate will remodel lately-noted building for manufacturing and business. (See Miscellaneous Enterprises.)

Mo. St. Louis.—Harry Epstein acquired site 47x124 ft. at Morgan Ford and Taft Aves.; contemplates erecting stores and flats in spring.

N. C. Charlotte.—W. I. Henderson will rebuild store building noted damaged by fire.

Okla. Oklahoma City.—J. V. Moore has plans by Maurice Jayne, Oklahoma City, for business building; 50x130 ft.; tapestry brick, stone, steel, marble, asbestos roofing, oak flooring; electric fixtures; gas heating; cost about \$10,000.

Okla. Oklahoma City.—F. B. Stone has plans by Maurice Jayne, Oklahoma City, for business building; 25x50 ft.; brick, steel, marble; asbestos roofing; oak flooring; cost \$4000.

S. C., Greenville.—G. H. and W. A. Williams will erect store building; 2 stories; brick; press brick and limestone front; plate glass; tar and gravel roof; day labor; S. D. Trowbridge, Archt., 522 Grant Bldg., Atlanta, Ga.

Tenn., Nashville.—Mrs. K. J. Swan will repair store building at 42½ Union St., noted damaged by fire at loss of \$13,000.

Tex., Abilene.—J. J. O'Malley has plans by David S. Castle, 29 Radford Bldg., Abilene, for business building; 2 stories; 55x100 ft.; brick; cost \$10,000.

Tex., Beeville.—T. B. Knight acquired B. W. Klipstein building and will remodel; construct new front, balcony on interior, etc.

Tex., Dallas.—E. M. Thomas will erect two-story brick-veneer building at 1807 Moser St.; cost \$5500.

Tex., Dallas.—W. S. Myer will erect 2-story tile building at 2804 S. Boulevard; cost \$7000.

Tex., Mt. Vernon.—M. L. Edwards will erect business building; 2 stories; brick; 50x100 ft., with ell 50x75 ft.; construction begun.

Tex., Memphis.—Mrs. C. S. Boykin will erect business building; 2 stories; 50x100 ft.

Tex., San Antonio.—Ullman, Stern & Krauss, Galveston, acquired Walker Moore Co.; will erect 2-story brick building 30x140 ft.; plans in progress.

Va., Hopewell.—Joe Simon and others will erect building on Broadway; 2 or 3 stories; lower floor for stores; upper floor for offices.

Va., Hopewell.—Moore Combination Stores, City Point, Va., will erect store and rooming house building on Poythress St.; 50x110 ft.; brick; built-up roofing; pine floors; hot water or steam heat; electric lights; cement sidewalks; hand-power elevator; construction begun by owner. Address Tom G. Moore, City Point, Va. (See Machinery Wanted—Building Materials, etc.)

Va., Pulaski.—Gary Laughon and C. H. Hoback will erect business building; 3 stories; brick; lower floor for stores; upper floors for offices; 50x130 ft.

W. Va., Logan.—B. L. Holland will erect

store and office building to replace burned structure. (See Apartment-houses.)

THEATERS

Md., Baltimore.—Howard Amusement Co. will erect motion picture theater at 404-06 N. Howard St.; bids received until Nov. 26; contractors estimating are: Clarence E. Stubbs, Equitable Bldg.; Richardson & Williams, 847 Equitable Bldg.; John J. Moylan, 117 E. Center St.; Singer Pentz Co., 600 Equitable Bldg.; Jos. Schamberger, 2122 E. Baltimore St.; Blake & Engle, Law Bldg.; Henry S. Ripple, 7 Clay St.; all of Baltimore; Sparklin & Childs, Archts., 502-6 Law Bldg., Baltimore.

Mo., St. Louis.—Corner Realty Co., Festus J. Wade, Prest., 4451 Lindell Ave., is reported to erect 5 additional stories to Shubert Theater, 12th and Locust Sts.; cost about \$250,000.

Va., Hopewell.—Geo. C. Poindexter is reported to erect theater on Broadway; 25x110 ft.

W. Va., Huntington.—New Theater Co. will erect theater on Fourth Ave.; cost \$14,000.

WAREHOUSES

Fla., Tampa.—Hillier & Spearing will repair galvanized-iron building on E. Bay St.; cost \$50,000.

Ga., Americus.—Americus Tobacco Warehouse Co. organized with N. M. Dudley, Prest.; C. H. Smith, Gen. Mgr.; will erect tobacco warehouse on Spring St.

Md., Easton.—Easton Milling Co. will erect warehouse; 16x60 ft.; 1 story; brick; tin roof; construction begun.

Miss., Laurel.—J. H. Nicholson, Prest. Jones County Tobacco Growers' Assn., contemplates erecting warehouse.

Mo., Kansas City.—E. O. Faeth will erect concrete warehouse at 1505-7-9 W. 12th St.

S. C., Laurens.—Laurens Bonded Warehouse, N. B. Dial, Prest., will erect additional buildings, doubling capacity.

Florida Electric & Machine Co., St. Petersburg.

Md., Baltimore.—St. James P. E. Church let contract to E. W. Gorman, 201 Augusta Ave., Baltimore, to erect parish-house at Augusta and Massachusetts Aves., Irvington; brick and stone; 30x60 ft.; 31 ft. high; Fred Wright, Archt., 155 Augusta Ave., Baltimore.

Tex., Beaumont.—St. Joseph's Italian Catholic Church let contract to P. J. Nangle, Beaumont, to erect building at Franklin and Bibb Aves.; brick; reinforced concrete foundation; Gothic style; cost about \$17,000.

Tex., Kenedy.—Episcopal Church let contract to John Blaise, Kenedy, to erect building; Old English Gothic style; Rev. D. R. Blaske, rector.

Va., Norfolk.—Park Place Methodist Church let contract to J. A. Turpin, Norfolk, to erect building, and to West-Richardson Construction Co., Norfolk, for foundation; classic style; brick; cream terra-cotta and stone trimmings; slate and gravel roof; metal dome over main auditorium; wood floors; seating capacity of auditorium 600; Sunday-school classrooms to seat 1234; cost \$45,000; steam-heating plant \$2000; Wickham C. Taylor, Archt., Norfolk. (Lately noted.)

CITY AND COUNTY

D. C., Washington.—Truckhouse.—Dist. Commrs. let contract at \$33,929 to Skinner & Garrett, 1416 F St. N. W., Washington, to erect truckhouse on New Jersey Ave. between D and E Sts. N. W. (Lately noted.)

D. C., Washington.—Engine-house.—Dist. Commrs. let contract at \$22,300 to James L. Marshall, McLachlen Bldg., Washington, to erect Engine-House No. 28 on Connecticut Ave. (Lately noted.)

Fla., Tampa.—Fair.—City let contract to Logan Bros., Tampa, to erect exhibition building in Plant Field Park; 50x48 ft.; brick; composition roof; cost \$10,000; plans by Paul Gasser, City Building Inspector. (Lately noted.)

Tenn., Cleveland.—City Hall.—City let contract at \$953 to E. M. Pratt, Cleveland, to erect city hall. (Lately noted.)

Tex., Houston.—Orphanage.—Harris county let contract to Brunson Bros. to erect building at orphanage; 2 stories; frame; cost \$9543.

W. Va., Fairmont.—Engine-house.—City let contract to Trimble & Son, Pittsburgh, Pa., to erect engine-house.

W. Va., Point Pleasant.—Clerk's Office.—City let contract to Thomas Vest, Point Pleasant, to erect addition to County Clerk's office.

COURTHOUSES

Okl., Wilburton.—Commrs.' Court let contract to A. Easley and H. R. Harder, Wilburton, to erect courthouse; to C. W. Barton, construct roof on jail and courthouse; Pauly Jail Building Co., St. Louis, for jail cells and to overhaul jail.

DWELLINGS

Ala., Birmingham.—J. G. Johnson let contract to W. B. Smith, Atlanta, to erect residence; 1 story; brick veneer; cost \$6000; Bem Price, Archt., Birmingham.

D. C., Washington.—George Craig, Burlington Apartments, let contract to D. E. Nichol, 4324 Georgia Ave., Washington, to erect dwelling at 2702 Wisconsin Ave.; 30x40 ft.; Pentex brick; Ludowici-Celadon tile; oak floors; hot-water heat; cost \$9000; Kendall & Smith, Archts., Southern Bldg., Washington.

D. C., Washington.—Harry R. Dewey, U. S. P. O. Dept., let contract to W. W. Vaughn, 1834 4th St. N. E., Washington, to erect residence at 2924 Carlton Ave. N. E.; 22x28 ft.; brick and frame; vulcanite roofing; wood floors; cost \$3000; hot-water heat \$300; electric lights \$40; cement sidewalk; Merrill T. Vaughn, Archt., Woodridge, D. C. Address contractor. (Lately noted.)

Fla., Crystal Springs.—M. A. Milde let contract to A. B. Moon, Crystal Springs, to erect residence on Central Ave.

Ga., Atlanta.—C. M. Sewall let contract to J. F. Higdon, Atlanta, to erect residence; 2 stories; frame; cost \$5250. (Lately noted.)

Ga., Atlanta.—H. W. Russell let contract to W. H. Chancellor, Atlanta, to erect 1-story frame residence.

Ga., Augusta.—R. C. Neely, Jr., let contract to Daly & Hayes, Augusta, to erect residence; cost \$10,000.

Ga., Macon.—P. T. Anderson let contract to M. E. Shaw, Macon, to erect residence at

165 English Ave.; 8 rooms; frame; composition roof; hardwood floors; furnace heat; city lights; cost \$3000; Nisbet & Brown, Archts., Macon. (Lately noted damaged by fire.)

Ga., Macon.—James T. Wright let contract to W. D. Griffin, Georgia Casualty Bldg., Macon, to erect residence; 1½ stories; frame and stucco; hardwood floors; tile baths; cost \$4000; Hupp & Shelverton, architects, Fourth National Bank Bldg., Macon.

Ga., Waycross.—J. N. Bray, Valdosta, Ga., let contract to V. C. Parker & Son, Waycross, to erect residence.

Ky., Lexington.—S. F. McCormick let contract to S. F. McCormick Lumber Co., Lexington, to erect residence at Russell and Ormsby Sts.; about 35x40 ft.; brick-veneer; tile roof; wood floors; hot air heat; electric lights; cost \$4000; construction begun; J. R. Smith, Archt., Lexington. (Lately noted.)

La., New Orleans.—Henry H. Brinkman let contract to August Bechtel, New Orleans, to erect frame residence; cost \$5400.

Md., Baltimore.—W. T. France, Cedarcroft Ave., let contract L. C. Wood to erect residence at Orkney and York Rds.; frame; 2½ stories; 45x46 ft.; cost about \$10,000; Geo. N. Mackenzie, Archt., 2 E. Lexington St., Baltimore.

Md., Baltimore.—Dr. W. J. Kasten, 200 Eutaw Pl., let contract to W. T. Childs, 14-16 W. 20th St., Baltimore, to erect 2 dwellings on Reisterstown Rd.; 16x50 ft.; brick; slag roof; wood floors; cost \$8000; steam heat \$450; electric lights \$100; F. L. Beall, Archt., 306 St. Paul St., Baltimore. (Lately noted.)

Miss., Clarksdale.—Mrs. M. L. Wingfield let contract to H. L. Ward, Clarksdale, to erect 2 six-room bungalows.

Miss., Vicksburg.—Mrs. Bettie Willis let contract to Curphey & Munday, Vicksburg, to erect residence to replace structure lately noted damaged by fire.

N. C., Greensboro.—Guilford Insurance & Realty Co. let contract to J. R. Train, Greensboro, to erect 2 dwellings on Magnolia St.; 6 rooms and bath and 8 rooms and 2 baths, respectively; frame; shingle roof; rift-pine floor; cost \$5200; hot-air heat in former structure, \$225; construction begun. (Lately noted.)

Okl., Chickasha.—A. B. Thompson let contract to T. R. Baker, Chickasha, to erect five-room bungalow at 624 Minnesota Ave.

Okl., Oklahoma City.—Geo. Breeding has plans by Maurice Jayne, Oklahoma City, and let contract to Stewart & Wilderson, Oklahoma City, to erect residence; 7 rooms; frame; 36x42 ft.; cost about \$3000.

Okl., Oklahoma City.—H. M. McCracken let contract to Stewart & Wilderson, Oklahoma City, to erect two 6-room frame dwellings; cost about \$2500 each; Maurice Jayne, Archt., Oklahoma City.

Okl., Oklahoma City.—W. W. Morris let contract to Stewart & Wilderson, Oklahoma City, to erect residence; 2 stories; 10 rooms; 32x38 ft.; brick veneer; cost \$6500; Maurice Jayne, Archt., Oklahoma City.

S. C., Charleston.—Dr. John T. Townsend let contract to Palmer-Spivey Construction Co., Charleston, to erect residence at Rutledge Ave. and South Bay; 43x48 ft.; brick veneer; asbestos roofing; hot-water heat; electric lights; cost \$7600; J. D. Newcomer, Archt., Charleston.

S. C., Columbia.—Dr. Lindsay Peters let contract to A. C. Bedford Co., Columbia, to erect residence on College St.; 11 rooms; 2 stories; frame; red cement tile roof; Rector gas-heating system.

S. C., Columbia.—W. G. Mullins let contract on percentage basis to erect residence on Saluda Ave.; Wales Gardens; 48x66 ft.; brick and frame; slate roof; hot-water or gas heat; cost \$10,000; Gadsden & Shand, Archts., Columbia.

S. C., Columbia.—Alan Johnstone, Jr., Palmetto Bldg., let contract to J. T. Dabbs, Columbia, to erect residence; 6 rooms; brick cellar; weatherboarding and frame; tile roof; rift-sawn pine flooring; hot-air heat; cost \$4000; Urquhart & Johnson, Archts., Columbia. Address Mr. Johnstone. (See Machinery Wanted—Heating Plant.)

S. C., Sumter.—A. C. Phelps let contract to J. M. Harby, Sumter, to remodel residence; tapestry brick veneer; tile roof; 2 stories and basement; hot-water heat; hardwood floors; construction begins Jan. 1; cost \$10,000.

S. C., Sumter.—W. J. Seals let contract to J. M. Harby, Sumter, to erect bungalow; semi-dreproof; hollow tile and cement; com-

BUILDING CONTRACTS AWARDED

APARTMENT-HOUSES

Fla., St. Petersburg.—Rev. J. W. Van de Venter let contract to erect apartment-house on 3d Ave. S.; 10 two and three-room suites.

Ga., Atlanta.—F. R. S. Realty Co. let contract to J. P. Harlee, Atlanta, to erect apartment-house at Juniper and 3d Sts.; 3 stories and basement; cost \$36,000; Horace B. Hammond, Archt., Atlanta.

Mo., St. Louis.—Louis Cella and James Curotto let contracts to erect store and apartment building. (See Stores.)

Tex., El Paso.—W. Major let contract to Mayfield & Shaw, El Paso, to erect tenement-house at 132 N. Florence St.; 120x33 ft.; 1 story; brick; tar and gravel roof; wood floors; cost \$6000; heating plant, \$250; lighting, \$125. Address contractors. (Lately noted.)

Tex., El Paso.—M. Emilstein let contract to Phoenix-El Paso Building Co., El Paso, to erect apartment-house; 11 rooms; brick; Flexatle shingle roof; oak and pine floors; electric lights; cost \$6500; steam heat, \$350; H. J. Ponsford, Archt., El Paso. (Lately noted.)

Va., Norfolk.—L. B. Roake has plans by Herbert W. Simpson, Norfolk, and let contract to Atkinson Bldg. Co., Norfolk, to erect apartment-house in Maury Pl. near Colley Ave. and opened bids for construction; rough texture brick; 4 stories; 41x62 ft.; 8 six-room suites; Spanish tile roof; front porches; mirrored bedroom doors; intercommunication phones; tiled baths and entrance vestibule; 6 garages in rear. (Lately noted.)

ASSOCIATION AND FRATERNAL

Fla., Dunedin.—J. A. Boyd and others let contract to erect building for lodgerooms, etc. (See Stores.)

Fla., St. Petersburg.—A. F. and A. M. let following contracts in connection with erecting Masonic Temple: General contract, Beard-French Co.; plumbing, C. W. Hewitt; electric work, Bozeman Electric Co.; all of St. Petersburg; cost \$10,000; Henry Dupont, Archt., St. Petersburg. (Lately noted.)

BANK AND OFFICE

Ark., Newport.—Arkansas Bank & Trust Co. let contract to Burkes Construction Co.,

Little Rock, Ark., to erect bank and office building; 40x134 ft.; 2 stories; fireproof, reinforced concrete slabs; terra-cotta fronts; brick walls; H. W. Johns-Manville built-up composition roofing; reinforced concrete floors; cost \$27,000; Mann & Stern, Archts., Little Rock. (Lately noted.)

Fla., Baker.—Bank of Baker, J. D. Coff, Prest., Crestview, Fla., let contract to W. J. Rice, Baker, to erect bank and office building; brick; composition roof; concrete and yellow pine floors; open grates; total cost \$5,917.30. (Lately noted.)

Fla., Dunedin.—J. A. Boyd and others let contract to erect building for offices, etc. (See Stores.)

Fla., Fort Meade.—First National Bank has plans by Bonfoey & Elliott, Tampa, Fla., and let contract to Robertson & Lee to erect bank, store and office building on Main St.; 63x70 ft.; 2 stories; fireproof walls; interior mill work; composition or asphalt roof; tile floor in lobbies; otherwise wood; cost \$9000; hand elevator, \$150. (Previously noted.)

Md., Baltimore.—Geo. A. Fuller Co., Fuller Bldg., New York, contractor for steel frame for office building at Lexington and Liberty Sts. for Public Service Building Co., let contract to American Bridge Co., New York, for 4000 tons fabricated steel; plans by Parker, Thomas & Rice, Union Trust Bldg., Baltimore, call for 20-story structure; cost about \$1,300,000. (Lately noted.)

Tex., Annona.—First State Bank let contract to Calvin Marshall, Blossom, Tex., to erect additional story to bank building; brick and steel; C. G. Curtis, Archt., 18½ Lamar Ave., Paris, Tex. (Lately noted.)

Va., Hopewell.—George Chakos and George Condeyles let contract to erect restaurant and office building. (See Miscellaneous.)

CHURCHES

Ala., Birmingham.—Tabernacle Baptist Church has plans by and let contract to J. W. Goodson, 401 7th Ave. N., Birmingham, for building; 48x96 ft.; brick veneer; asphalt shingle roof; stadium floor construction; hot-air heat; no lighting plant; cost \$10,000; construction begun.

Fla., St. Petersburg.—Christian Church let contract to Beard & French, St. Petersburg, to improve building; let decorating contract to Robt. S. Phillips, St. Petersburg; wiring,

position roof; construction begins Dec. 1; cost \$3500.

Tenn., Memphis.—B. Beanland let contract to J. A. Fix, Memphis, to erect 1-story 8-room brick-veneer residence; asphalt roof; cost \$200; hot-water heat \$500.

Tenn., Memphis.—Memphis Realty Co. let contract to Clinton Lumber Co., Memphis, to erect three nine-room brick-veneer residences; asphalt roofs; cost \$15,000; hot-water heating plants, \$500 each.

Tenn., Memphis.—John M. Frick let contract to Clinton Lumber Co., Memphis, to erect two 1-story 6-room frame residences at 102 College Ave. and 497 Leath St.; cost \$1250.

Tex., Alpine.—John Young let contract to Alamo Lumber Co. to erect residence on Hancock Heights; 40x60 ft.; shingle roof; hardwood floors; double chimney; cost \$500; electric lights \$100; A. B. Cohen, Archt. (Lately noted.)

Tex., Austin.—Dr. E. C. Berwick let contract to J. M. Allen, Austin, to erect residence; 6 rooms; frame; 36x50 ft.; hot-air heat; gas and electric fixtures; cost \$3200.

Tex., Brenham.—J. L. Vann let contract to J. A. Jamieson, Brenham, to erect residence at 2d and Day Sts.; 2 stories; frame; tin shingle roof; gas heat; electric lights; cost \$200; M. M. Ginn, Archt., Brenham. Address contractor.

Tex., Childress.—S. M. Mitchell let contract to A. H. Manzer to erect 8-room residence.

Tex., El Paso.—E. M. Quinan has plans by and let contract to Phoenix-El Paso Building Co., El Paso, to erect residence on California St.; 8 rooms; brick; flexible shingle roof; oak and pine floors; electric lights; cost \$400; hot-air heat, \$165. (Lately noted.)

Tex., Houston.—T. H. Dixon let contract to erect 3 dwellings at Petty and West Sts.; W. W. Dedman, Supt. of Construction; also plans to erect residences in Sunset Heights.

Tex., Houston.—B. Clayton let contract to Fred Heidelberg, Houston, to erect residence on Lovett Blvd.; 8 rooms; cost \$11,200.

Tex., Johnson City.—S. E. Johnson let contract to erect 2 residences.

Va., Norfolk.—A. H. Garrett let contract to Sawyer Bros., Norfolk, to erect 2 residences at 236 28th St. and 325 29th St.; 2 stories; frame; cost \$5000.

Va., Norfolk.—Bellamy & Hough will erect 2 residences in Larchmont; brick; 2 stories; cost \$400 each; A. F. Smith, Contr., Norfolk.

Va., Norfolk.—J. L. Rohleder let contract to J. J. Powell, Norfolk, to erect 2-story frame residence; cost about \$3500.

GOVERNMENT AND STATE

Fla., Jacksonville.—Postoffice.—Treasury Department, Jas. A. Wetmore, Act. Supervising Archt., Washington, D. C., let contract to O. P. Woodcock, Jacksonville, to repair basement of federal building; P. A. Dignan, Custodian. (Previously noted.)

HOSPITALS, SANITARIUMS, ETC.

Tex., Abilene.—Board of Managers of State Epileptic Colony let contract at \$35,850 to R. C. Lewis, Abilene, to erect 2 cottages; accommodations for 45 patients each; fireproof.

Tex., Dallas.—H. J. Curtis, 1209½ Main St., Dallas, general contractor to erect St. Paul's Sanitarium; let following subcontracts: Reinforcing steel, Truett Concrete Steel Co.; cut stone, Theo. Reilharz; cast stone, Southern Architectural Cement Stone Co.; lumber and millwork, Buell Planing Mill Co.; common brick, Dallas Pressed Brick Co.; all of Dallas; face brick contract also let; will let following contracts in 3 or 4 weeks: Electric wiring; plumbing; sheet-metal work; slate roofing; metal partition lath; plans by J. Ed Overbeck, 708-09 Wilson Bldg., Dallas, call for structure 175x90 ft.; brick and concrete; slate-pitched roof; reinforced concrete floors; vacuum steam heat; electric elevators; cost \$150,000 without mechanical equipment. (Noted in August.)

HOTELS

N. C., Landis.—J. P. Trice let contract to E. L. Fleming to remodel and enlarge 2-story building for hotel and business building; completion by Jan. 1.

MISCELLANEOUS

Tex., Galveston.—Bathhouse.—Murdoch Bathhouse Co. let contract to J. W. Zempfer, Galveston, to erect bathhouse to replace

structure previously damaged by storm; construction on piles 6 ft. above top of seawall; cost \$18,000.

RAILWAY STATIONS, SHEDS, ETC.

Ga., Athens.—Georgia R. R. let contract to erect warehouse. (See Warehouses.)

Tex., Mexia.—Houston & Texas Central R. R., W. E. Costello, Supt., Ennis, Tex., let contract to C. J. Kaulh, Mexia, to erect passenger station. (Lately noted.)

SCHOOLS

La., Lake Charles.—School Board let contract at \$3200 to Platt & Volquardsen, Lake Charles, to erect addition to E. Broad St. School; brick; A. H. Humphrey, Archt., Lake Charles.

S. C., Columbia.—Geo. W. Waring, Columbia, general contractor at \$97,379 to erect previously-noted high school, let following subcontracts in connection therewith: Face brick, Guinard Brick Works; stone, Hoadley & Son, Stinesville, Ind.; reinforced Florestyle construction, Trus-Con Steel Co., Atlanta, Ga.; structural steel, Structural Steel Co., Richmond, Va.; millwork, Halsema Mfg. Co., Jacksonville, Fla.; electric wiring, Perry-Mann Co.; heating and plumbing, W. B. Guimarin & Co.; both of Columbia; construction in charge of W. A. Cray, Columbia; plans by Urquhart & Johnson, Columbia, call for fireproof structure; 168x130 ft.; rough texture brick; limestone trimmings; tin roof; reinforced concrete floors; tile partitions. (See Machinery Wanted—Iron Work, etc.)

Tenn., Winchester.—City let contract to Baxter Bros., Huntsville, Ala., to erect high school; brick and frame; steam heat; electric lights; cost \$13,000; E. L. Love, Archt., Huntsville. (Lately noted.)

Tex., Ballinger.—Bethel School Dist. Trustees let contract to J. A. Kelley, Ballinger, to erect school; 4 rooms and auditorium; 63x66 ft.; stone; metal ceiling; cost about \$6000; Sparger & Peters, Archts., Bonham, Tex.

Tex., Moore.—School Trustees let contract to erect school; 6 rooms; 57x68 ft.; ordinary construction; brick; tar and gravel roof; stoves; domestic science, manual training and laboratory equipment; cost \$11,200; Ralph H. Cameron, Archt., San Antonio, Tex.

Tex., Palestine.—A. W. Flynt, Fort Worth, general contractor to erect high school, let following subcontracts: Reinforcing steel, Texas Rolling Mill Co.; steel, floor domes, lathe, etc., Caubkins & Patton; structural iron steel and iron, Southwestern Mechanical Co.; sash and doors, Ingram Mill Work Co.; cut-stone work, J. B. Huffman; all of Fort Worth; millwork, W. & G. D. Broyles; sheet-metal work, A. M. Burns; both of Palestine; painting, J. D. Curd, Stamford, Tex.; cement, Texas Portland Cement Co., Dallas, Tex.; crushed rock, Dittlinger Lime Co., New Braunfels, Tex.; plans by Sanguinet & Staats, Fort Worth, call for reinforced concrete construction; paper roof; wood on cement floors; cost \$65,000. (Noted in October.)

STORES

Ala., Birmingham.—Mrs. Arabella Morris let contract to A. M. Tharp, Birmingham, to erect 2-story brick building.

Fla., DeLand.—L. T. Bielby let contract to Mr. Kenedy to erect store building.

Fla., Dunedin.—Manley R. Tharin let contract to H. Armstead to erect store building; 50x100 ft.; brick; 3-ply asbestos roofing; wood floors; cost \$5000. (Lately noted.)

Fla., Dunedin.—J. A. Boyd, M. W. Moore and P. D. Niven have plans by and let contract to Harry Armstrong to erect store, office and lodge building; 40x60 ft.; brick; rubber roof; wood floors; electric lights; cost \$5000. (Lately noted.)

Fla., Fort Meade.—First National Bank let contract to erect store, bank and office building. (See Bank and Office.)

Ga., Waycross.—R. L. Singleton has plans by and let contract to C. V. Parker & Son, Waycross, to erect store building at 52-54 Plant Ave.; 41x100 ft.; 2 stories and basement; brick and steel; tin roof; cost \$7500; building materials purchased.

Ky., Hazard.—D. Y. Combs let contract to erect \$25,000 business building.

Mo., St. Louis.—Louis Cella and James Curotto let contracts to erect store and apartment building; 54x84 ft.; 3 stories; brick; tar and gravel roof; cost \$40,000; low-pressure steam heat about \$2500; construction begun; H. A. Wagner, Archt., St. Louis. (Lately noted.)

N. C., Landis.—J. P. Trice let contract to remodel and enlarge building for hotel and business building. (See Hotels.)

Okl., Oklahoma City.—James Chenoweth let contract to Stewart & Wilderson, Oklahoma City, to erect residence; 2 stories; 10 rooms; brick veneer; cost about \$7000; Maurice Jayne, Archt., Oklahoma City.

Va., Norfolk.—Mrs. Nora W. Cooke let contract to R. R. Sale, Norfolk, to erect business building on 1st St. near Lincoln St.; cost \$4250.

Va., Norfolk.—Tuttle, Bonney & Urquhart let contract to Thompson & Co., Norfolk, to remodel building at 200 Granby St.; will install show windows of Tennessee marble, lacquered copper and plate glass, with parquet floors and paneled cabinet woodwork in butternut and circassian walnut, etc.

Va., Roanoke.—French Shop, Corban Bros., Props., 32 Campbell Ave., will remodel building; contract let to Mr. Mason.

THEATERS

Va., Hopewell.—C. Cohan & Co. will build theater; 800 seating capacity; brick construction; contract let; purchased site for \$10,000.

WAREHOUSES

Ga., Athens.—Georgia R. R. let contract to Hinton & Stewart, Athens, to erect ware-

house at Foundry and Broad Sts.; 50x110 ft.; brick; tar and gravel roof; concrete floor in basement; other floors wood; electric elevator; cost \$16,000; plans by company's engineers. (Lately noted.)

Ga., Augusta.—Buckeye Cotton Oil Co. (Proctor & Gamble Co., Cincinnati, O.) let contract to C. B. Holley, Augusta, to erect warehouse.

Ga., Macon.—Buckeye Cotton Oil Co. let contracts for erection of 200x70-ft. seedhouse and warehouse to H. B. Hoppendietzel Co., Macon, for concrete foundation and side walls, and to Virginia Bridge & Iron Co., Roanoke, Va., for steel roof. (See Cottonseed-Oil Mills.)

Mo., Joplin.—F. A. Tonnies let contract to Bane & Hoffman, Joplin, to erect warehouse; 66x76 ft.; concrete and brick; fireproof; concrete and tile and composition gravel roof; cement floors; cost \$7500; completion about Dec. 15; A. C. Michaels, Archt., Joplin.

Tex., San Antonio.—D. J. Woodward has plans by and let contract to W. N. Haggy, San Antonio, to erect store and warehouse at Flores and Daniel Sts.; 125x100 ft.; light steel frame, tile and brick; dirt or cement floor; cement sidewalk; cost \$5900.

W. Va., Wheeling.—United States Stamping Co. let contract to Thomas Shimp, Wheeling, to erect addition to stockroom; 1 story; corrugated iron; 160x150 ft.

MACHINERY, PROPOSALS AND SUPPLIES WANTED

Manufacturers and others in need of machinery or supplies of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery or supplies needed we will make their wants known free of cost, and in this way secure the attention of manufacturers and dealers throughout the country. The Manufacturers Record has received during the week the following particulars as to machinery and supplies wanted.

"WANTS"

Acid Machinery.—E. N. Hutton, P. O. Box 282, San Juan, Porto Rico.—To correspond with manufacturers of machinery for manufacturing citrate of lime and citric acid from lime and other citrus fruits.

Agricultural Implements, etc.—Edgar Franklin & Co., 62 Basinghall St., London, E. C., England.—Correspondence with manufacturers of following: Agricultural implements; black bone-handled razors "to cost about 7/ per doz. landed here" (England); barbed wire, painted and galvanized; plain galvanized wire; all-wool and part-wool socks, principally gray; also other lines.

Air Compressor.—American Metallic Packing Co., Lexington, Ky.—First-class second-hand outfit complete, 300 to 400 cu. ft. free air per minute; quote on both steam and belt driven and where can be seen in operation, with best cash price.

Alarms (Thermometer, Electric).—National Electric Thermometer Co., 123 N. 7th St., Wilmington, N. C.—Prices on special thermometer electric alarm with relay attached; ash or mahogany frame; for thermometers; plans and specifications furnished on application.

Aluminum Goods.—Dixie Miller Co., Atlanta, Ga.—Correspondence with manufacturers of aluminum goods.

Asparagus (Tinned).—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids on 100,000 lbs. tinned asparagus, schedule 9015, delivery Boston, Philadelphia, Brooklyn, Norfolk.

Automobile Repair Equipment.—Rock City Auto & Storage Co., 169 3d Ave. N., Nashville, Tenn.—Prices on lathes, emery wheels, etc.; also drill press, steam hoist, etc.

Bank Vault.—See Vaults.—People's Bank.

Batteries.—See Electrical Equipment.—Chas. F. Nelson.

Beds (Wall).—J. T. Blevins & Sons, Bldg. Contrs., Van Buren, Ark.—Names and addresses of manufacturers of and dealers in beds built into walls of residences.

Blackboards.—See Iron Work, etc.—Geo. W. Waring.

Boiler (Heating).—D. Greenfield estate, 68 A. S. Forsyth St., Atlanta, Ga.—Prices on heating boiler.

Boilers, Engines and Machinery.—L. Manne Upholstering & Carpet Cleaning Co., 2724 N. Grand Ave., St. Louis, Mo.—

Prices on boilers, engines, contractors' and other machinery.

Boilers (Marine).—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids on 9 marine water-tube boilers, schedule 9018, delivery Brooklyn, N. Y.

Bolts (Stove).—See Sheet Iron and Brass, etc.—Nichols Grate Radiator Co.

Boiler.—See Locomotive, Cars, etc.—E. Francis McCrossin.

Boiler.—C. S. Barnes, Keysville, Va.—30 to 35 H. P. boiler mounted on trucks, with 25 to 30 H. P. engine; boiler of high pressure and latest design. (See Sawmill.)

Bottling Machinery.—Charlottesville Christ-Cola Co., J. W. Fry, Jr., Mgr., Charlottesville, Va.—Receiving bids on bottling plant for soft drinks.

Bridges, Culverts, etc.—Geo. Morrison, County Judge, Clarksville, Tex.—Bids until Dec. 9 to construct bridges, culverts, etc., Road Dist. No. 1. (See Road and Bridge Construction.)

Buckets (Galvanized Iron or Steel).—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids on 3000 galvanized iron or steel buckets, schedule 9009, delivery Boston.

Bucket (Cableway).—Mercer & Miller, 618 American National Bank Bldg., Richmond, Va.—One cu. yd. bucket for slack cableway plant.

Building Materials, etc.—Tom G. Moore, City Point, Va.—Prices on heating plant, elevator, plate glass, skylights, cornice, plaster, plumbing materials.

Burners (Oil), etc.—Parent Lamp Mfg. Co., 191 Front St., Rochester, N. Y.—Prices on oil burners and electric fixtures for automobile lamps.

Canvas.—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids on 45,000 yds. medium white cotton canvas, schedule 9016, delivery Brooklyn, Norfolk.

Cars.—See Locomotive, Cars, etc.—E. Francis McCrossin.

Cement.—See Laundry Machinery, etc.—White Cross Laundry Corp.

Castings (Iron and Steel).—J. C. Moyer & Co., Pennsylvania Bldg., Philadelphia, Pa.—Prices on iron and steel castings. (Have contract for cast-iron retorts and equipment for Government nitric acid plant at smokeless powder factory, Indian Head, Md.)

Citrate of Lime Machinery.—See Acid Machinery.—E. N. Hutton.

Chemical Products.—Alfredo Vital, Consejo de Ciento 356, Barcelona, Spain.—Interested in various chemical products; view to representation.

Chemical Products, etc.—Emile Cauwe, 4 Rue de Trevis, Paris, France.—Interested in chemical products, aniline and direct colors for calico printing, wool and cotton dyes; view to sole agencies.

Clothing, etc.—Alexis & Gagahakis, La Cane, Crete.—Interested (with view to sole agencies) in following: Flour in 110-lb. bags; rice; woolen and cotton stuff for men's and women's wear; woolen and cotton underwear; hosiery yarn; red yarn, twisted and untwisted; box calf for shoes; sheep skins of different colors; glazed kid and other leathers for shoemakers; handkerchiefs; Cabot in 40-yd. pieces; common white plates; water glasses; Rio coffee in bags; alarm clocks.

Coke Ovens.—C. M. Dunnivant, Charleston, W. Va.—To correspond with manufacturers and constructors of by-product coke ovens.

Construction Materials.—See Electrical Equipment, etc.—Allentown Engineering Co.

Cotton Webbing Machinery.—Tateish Trading Co., No. 7, Minami-Daikucho, Kiohashi-Ku, Tokyo, Japan.—Catalogues and prices, with work sample pieces, on machinery for manufacture of garter web and suspender webbings; interested in equipment for webbing factory. State trade and cash discount.

Crusher.—Moulton Stone Co., Buffalo Station, Va.—No. 6 gyratory stone crusher; second-hand.

Crushers.—De Loach Mfg. Co., Atlanta, Ga.—To correspond with manufacturers of crushers for agricultural limestone rock.

Dams, Reservoir, Head Gates, etc.—Ward County Irrigation Dist. No. 1, Robt. L. McKnight, Secy., Barstow, Tex.—Will open bids Dec. 20 to construct dams, reservoir, head gates, sluice gates, etc., as per specifications, profiles and engineer's report on file at office of Dist. Details on application.

Drainage.—Comms. Crittenden County Drainage Dist. No. 7, Marion, Ark.—Bids Dec. 10 at Courthouse to construct about 41 mi. ditches, requiring about 1,800,000 cu. yds. earth excavation; plans and specifications obtainable from Morgan Engineering Co., Engr., 608 Goodwyn Institute Bldg., Memphis, Tenn.

Drainage.—Orlando Securities Co., Orlando, Fla. (general offices, 806 Westminster Bldg., Chicago, Ill.).—Will advertise bids on about 60 mi. ditches and canals; removal 7000 cu. yds. dirt; estimated cost \$130,000 to \$175,000; 4 dredges could be used; work to be completed within 1 year or 1½ years.

Drill Press.—Toittek Garage, El Paso, Tex.—Prices on drill press for large garage.

Electric Fixtures.—See Burners (Oil), etc.—Parent Lamp Mfg. Co.

Electric Lamps.—Baltimore (Md.) Board of Awards, City Hall.—Bids until Dec. 1 to supply incandescent electric lamps or bulbs; specifications obtainable from W. Mohr, Supt. of Lamps and Lighting, City Hall.

Electric Motors.—See Laundry Machinery, etc.—White Cross Laundry Corp.

Electric Plant.—Board Bond Trustees, J. R. Boulware, Secy., Lakeland, Fla.—Bids until Dec. 17 to construct additions to electric plant. (See Fire, Water and Electric Systems.)

Electric Plant Equipment.—E. T. Hartje, 2137 Independence Ave., Kansas City, Mo.—Prices on 30 K. W., A. C. generator, 37½ to 50 H. P. oil engine, about 100 25-ft. 5-in. poles, 6000 ft. No. 8 insulated copper wire, transformers, switchboards, insulators, etc.; for plant at Schell City, Mo.

Electric Plant Equipment.—Isaacs & Baker Co., Berea, Ky.—Data and prices on full equipment for electric-light plant; develop 100 H. P.

Electrical Equipment, etc.—Allentown Engineering Co., Jefferson Bldg., Florence, Ala.—Data and prices on electrical and other equipment and construction materials for hydro-electric development.

Electrical Equipment.—Chas. F. Nelson, Capon Springs, W. Va.—Names and addresses of manufacturers of dry batteries for telephones, automobiles, call bells, etc.

Electrical Supplies.—See Water, Sewer and Electric Plants Supplies.—Wilbur A. Glinn.

Electric Wiring.—See Roofing, Plumbing, etc.—Tyler Ice Co.

Elevator.—See Building Materials, etc.—Tom G. Moore.

Elevators.—D. Greenfield estate, 68 A, S. Forsyth St., Atlanta, Ga.—Prices on elevators; will install 1 passenger and possibly 3 freight elevators.

Engine.—C. S. Barnes, Keysville, Va.—Engine of 25 to 30 H. P. (See Sawmill.)

Engine, etc.—Board of Mayor and Aldermen, Water Valley, Miss.—Bids until Dec. 7 to furnish triple combination motor pumping engine, chemical engine and hose wagon; pump capacity 250 gals. per min.; G. R. Wood, City Clerk.

Engine (Hoisting).—Mercer & Miller, 618 American National Bank Bldg., Richmond, Va.—40 H. P. D. C. double-drum hoisting engine.

Engines.—See Boilers, Engines and Machinery.—L. Manne Upholstering & Carpet Cleaning Co.

Excelsior Machinery, etc.—W. Hall Moss, Ooltewah, Tenn.—Data on establishment of excelsior mill and prices on machinery; data to include cost of operation, markets, etc.

Fire, Water and Electric Systems.—Board Bond Trustees, J. R. Boulware, Secy., Lakeland, Fla.—Bids until Dec. 17 for separate items of materials, construction and equipment for additions to fire, water and electric systems; includes quadruple combination motor fire truck, etc.; fire alarm system and connections; water-works pumps;

Hardware.—N. Kalsermann, No. 25 Uzine St., Jassy, Roumania.—Catalogues, with prices and terms, delivery Roumania, from American manufacturers of padlocks, other locks, and small hardware for building purposes.

Hardware, etc.—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids on following, schedule 9031, various deliveries: 48 mortise locks for sliding doors, and 700 cylinder wardrobe locks, delivery Philadelphia; padlocks, delivery Philadelphia, Norfolk; 1000 pieces wire mesh, garnet paper and brass machine screws, delivery Boston; brass wood screws, delivery Boston, Charleston; also schedule 9032, steel boiler rivets, delivery Charleston.

Heating Plant.—Alan Johnstone, Jr., Palmetto Bldg., Columbia, S. C.—Bids on hot-air furnace for 6-room dwelling.

Heating Plant.—See Building Materials, etc.—Tom G. Moore.

Heating Plants.—See Boiler (Heating). D. Greenfield estate.

Holst (Steam).—See Automobile Repair Equipment.—Rock City Auto & Storage Co.

Hosiery.—See Agricultural Implements, etc.—Edgar Franklin & Co.

Ice and Cold-storage Equipment.—Citizens' Bank, Andrew V. Smith, Cash., Banks, Ark.—To correspond with manufacturers of ice and cold-storage plant equipments.

motive with pony truck, standard gauge, for hauling 40 loaded steel sugar-cane cars; standard sugar-cane cars; 35, 40 and 62-lb. relay rails; 80 H. P. fire tube boiler; all for export.

Lumber, Piles, etc.—Simons-Mayrant Co., Charleston, S. C.—Prices on lumber, piles and galvanized bolts, etc. (Company is lowest bidder on Government shipbuilding ways at Charleston.)

Machine Tools.—See Automobile Repair Equipment.—Rock City Auto & Storage Co.

Metals.—G. A. Terracini, Genoa, Italy.—Wants cables' offers for large quantities of nickel in sheets; aluminum notched bars; tool steel (best on the market); tungsten for steel.

Mining Machinery.—See Gravel Plant, Musterfield Sand & Gravel Co.

Nut Butter Machinery, etc.—Wm. F. Pickard, 309 7th Ave. S., Nashville, Tenn.—Prices from manufacturers of nut butter machines; also medium-priced equipment for parching grain and nuts.

Oil Mill Machinery.—H. C. Bridge, Bladen Mfg. Co., Bladenboro, N. C.—Open bids in Jan. on cotton oil mill machinery for manufacture of meal, oil and other cottonseed products.

Oil (Peanut).—A. Paterno & Son, corner Dumaine and Chartres St., New Orleans, La. Correspondence with manufacturers of peanut oil.

Oil Refinery.—National Oil & Gas Co., 1301 Carter Bldg., Houston, Tex.—Data on establishment of oil refinery to cost \$300,000 and prices on machinery.

Painting.—See Iron Work, etc.—Geo. W. Waring.

Paving.—Board Comms., Birmingham, Ala.—Bids until Nov. 30 to construct about 7000 sq. yds. concrete sidewalks on 1st Ave. from 32d to 41st St.; Julian Kendrick, City Engr.

Piles.—See Lumber, Piles, etc.—Simons-Mayrant Co.

Pipe-threading and Cutting-off Machine.—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids on pipe-threading and cutting-off machine, schedule 9023, delivery Philadelphia, Pa.

Plumbing.—See Roofing, Plumbing, etc. Tyler Ice Co.

Power Plant Equipment.—City Commissioners, Clarksdale, Miss.—Open bids Dec. 14 on following: 350 H. P. water-tube boiler, gaged steel stack; 500 H. P. open-feed water heater with metering device, 30 G. P. M. centrifugal boiler-feed pump with motor drive, 500 G. P. M. motor-driven water-works pump, CO₂ and draft recorder with low efficiency alarm, 4 feed water regulators, ½-ton electric delivery type truck; also industrial railway equipment to include two 1-ton, drop-side, steel charging cars; right-hand cast plate switch; 3-ton cast plate, boiler-room scales, with hand-registering device; 500 ft. (single) 15-lb. rail, with 4-bolt fish plates and bolts; specifications on file at office of M. W. Purcell, City Clerk, and copies obtainable there, or from Consult. Engr., W. G. Shurger Engineering Co., Meridian, Miss.

Pulp (Wood) Machinery.—C. B. Davis Engineering Co., 734 Brown-Mars Bldg., Birmingham, Ala.—Names and addresses of manufacturers of machinery for making wood pulp.

Pumps (Centrifugal), etc.—Panama Canal, F. C. Boggs, Gen. Purchasing Officer, Washington, D. C.—Bids until Dec. 13 to furnish motor-driven centrifugal pumps, cast-iron bollocks, pinions, steel cable, coal shut, aluminum pig, stocks and dies, ramers, twist drills, wrenches, rasps, whistle valves, steam whistles, brass hubs, potato mashers, red fiber packing, alcohol, muriatic acid, litharge, Japan drier, lard oil, fish oil, turpentine, red lead, white lead, shellac, varnish, and paints; blanks and general information relating to this circular (No. 300) may be obtained from this office or offices of assistant purchasing agents, 21 State St., New York; 614 Whitney-Central Bldg., New Orleans, and Fort Mason, San Francisco; also from U. S. Engr. offices in Seattle, Los Angeles, Baltimore, Philadelphia, Pittsburgh, Boston, Buffalo, Cleveland, Cincinnati, Chicago, St. Louis, Detroit, Milwaukee, St. Paul, Chattanooga, Louisville, Mobile and Galveston; Commercial Club, Kansas City, Mo.; Chamber of Commerce, Quincy, Ill., and Commercial Club, Tacoma.

Rails.—See Locomotive, Cars, etc.—E. Francis McCrossin.

Rails, etc.—Moulton Stone Co., Buffalo Station, Va.—30 tons 25-lb. relay rails, 15 frogs and 15 prs. switch points.

FOR the benefit of business concerns, engineers, contractors, machinery manufacturers, dealers and others who find it profitable to follow up daily the industrial, commercial, railroad and financial development of the South and Southwest as published in this Construction Department,

We issue every Business Day in the Year THE DAILY BULLETIN

The construction news as published in the Daily Bulletin is invaluable to all business people who want to keep in daily touch with the organization of business enterprises of all kinds throughout the whole South. Unlimited possibilities for the creation of business, for securing contract work, for the sale of machinery and supplies of all kinds, for bond buyers and others, are to be found through a close following up of the news in the Daily Bulletin.

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air compressor and air lifts; artesian well pump, drilling and casing one artesian well; 2 water-tube steam boilers; steam-driven electric generating unit; surface condensing equipment; switchboards, etc.; cast-iron water pipe, fittings, valves and hydrants, and laying; specifications to be issued by Schofield Engineering Co., Engr., Philadelphia, Dec. 1, and to be on file at its Philadelphia office and at City Hall, Lakeland.

Feed Mills.—R. Rockwell, Meridian Light & Ry. Co., Meridian, Miss.—Names and addresses of manufacturers of feed mill equipment.

Feed Mill Equipment, etc.—L. L. Foreman, Memphis, Tex.—Data, catalogues and prices on equipment for feed mill, etc.: Corn sheller, threshing machine, feed crusher, corn mill, shafting, pulleys, belting, etc.; will manufacture chops and thresh maize, kafir, peas, peanuts, cane heads, etc.

Flooring.—See Iron Work, etc.—Geo. W. Waring.

Flour Mills.—R. Rockwell, Meridian Light & Ry. Co., Meridian, Miss.—Names and addresses of manufacturers of flour mill equipment.

Gravel Plant.—Musterfield Sand & Gravel Co., Fredericksburg, Va.—Gravel plant with daily capacity 25 to 50 carloads washed and sized gravel.

Grist Mills.—R. Rockwell, Meridian Light & Ry. Co., Meridian, Miss.—Names and addresses of manufacturers of grist mill equipments.

Iron Work, etc.—Geo. W. Waring, contractor, Columbia, S. C.—To let contracts for ornamental iron work, terrazzo and tile, plastering, blackboards, glass and painting and rift pine flooring for \$125,000 high school at Columbia, for which he has general contract.

Knitting Machinery.—W. M. Dobson, Wedowee, Ala.—Knitting machinery.

Lathe.—Toittek Garage, El Paso, Tex.—Prices on lathe for large garage.

Lathe.—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids on wood-worker's lathe, schedule 9017, delivery Boston.

Lathe (Machine).—Stanton Foundry & Machinery Co., Palatka, Fla.—Prices on 16-in. or 18-in. second-hand machine lathe; good condition.

Lathe, etc.—Emile Cauwe, 4 Rue de Trevis, Paris, France.—Interested in tools: lathes and new specialties; view to sole agencies.

Laundry Machinery, etc.—White Cross Laundry Corp., R. A. Harman, 613 Mechanics' Bldg., Petersburg, Va.—Prices (bids opened Dec. 10) on laundry machinery, including boilers, engines, electric motors, steel building material, cement and laundry supplies.

Leathers.—See Clothing, etc.—Alexis & Gagahakis.

Locomotive, Cars, etc.—E. Francis McCrossin, Contr.-Engr., 506 American Trust Bldg., Birmingham, Ala.—Four-wheel loco-

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Railway Equipment.—See Power Plant Equipment.—City Commrs., Clarksdale, Miss.
Refrigerators.—R. A. Grant, 67 Atwood Ave., Atlanta, Ga.—Names and addresses of manufacturers of iceless refrigerator using water absorption method.
Road Construction.—Isle of Wight County Commrs., Isle of Wight, Va.—Bids at office of Cash., Bank of Windsor, Windsor, Va., until Nov. 29 to construct 3/4 mi. gravel road through town of Windsor; plans and specifications on file at Bank of Windsor and County Clerk's office, Isle of Wight, Va.; specifications furnished on application to G. P. Coleman, State Highway Commr., Richmond, Va.
Road Construction.—Clinton County Commrs., C. B. Parrigin, Chrmn., Albany, Ky.—Bids until Nov. 30 to construct 31 mi. macadam road; plans and specifications on file with Highway Commr., Frankfort, Ky., and with County Clerk, Albany.
Road and Bridge Construction.—Geo. Morrison, County Judge, Clarksville, Tex.—Bids until Dec. 9 for construction of highway system, including bridges, culverts, etc., for Road Dist. No. 1, Red River county; Commrs. reserve right to let bridges and culverts separately; contemplated expenditure \$300,000; plans and specifications on file with County Judge and mailed after Nov. 5 for \$5.
Roasting (Grain and Nut) Machinery.—See Nut Butter Machinery, etc.—Wm. P. Pickard.
Roofing.—Toltek Garage, El Paso, Tex.—Prices on half carload galvanized corrugated roofing.
Roofing, Plumbing, etc.—Tyler Ice Co., Tyler, Tex.—Bids until Dec. 4 on roofing, plumbing and electric wiring for two-story brick and concrete building.
Roofing (Tile).—Francis M. Miller, Box 201, DeLand, Fla.—Prices on tile roofing for residence 67x30 ft.
Sawmill.—C. S. Barnes, Keysville, Va.—Sawmill outfit; consider mill with edger and trimming saw; 30 to 35 H. P. boiler mounted on trucks, with engine 25 to 35 H. P.; boiler of high pressure and latest design; could use good rebuilt outfit in first-class order and at right price.
Scales (Boiler-room).—See Power Plant Equipment.—City Commrs., Clarksdale, Miss.
Sewer Construction.—Commrs. Dist. of Columbia, 609 Dist. Bldg., Washington, D. C. Bids until Nov. 29 to construct 300 lin. ft. trunk sewer, 3-ft. diam., and 12,000 lin. ft. pipe sewer, 24-in. to 10-in. diam.; proposal forms, specifications and information obtainable from Chief Clerk, Engr. Dept., 427 Dist. Bldg.
Sewer Construction.—John A. Anderson, Recorder, Park City (R. Station Knoxville), Tenn.—Bids until Nov. 29 to construct 21 sewer laterals; plans, profiles and specifications on file with City Engr.; bids to be submitted on work as whole.
Sewer Construction.—City of Tulsa, Okla.—Bids at office of City Auditor until Nov. 29 to construct sanitary sewer system, including laterals, outlets, etc., in Sewer District Nos. 102 and 103; plans, profiles and specifications on file with T. C. Hughes, City Engr.
Sewer Construction.—City of Kenova, W. Va.—Bids about Dec. 23 to construct sewers; \$55,000 available; Oliver & Maupin, Engrs., Huntington, W. Va.
Sewer Construction Materials.—See Water, Sewer and Electric Plants Supplies, Wilbur A. Ginn.
Sewer Construction.—See Water-works and Sewer System.—City of Citronelle, Ala.
Sheet Iron and Brass, etc.—Nichols Gate Radiator Co., 45 E. Hunter St., Atlanta, Ga.—Prices on following for manufacture of grate radiators: Polished sheet iron, 26 gauge; Russian sheet iron, 26 gauge; American sheet iron (rustless if possible), 26 gauge; wrought (bar) iron, 1x1/2 in. and 1x1/4 in.; oval head stove bolts, 1x1/2 in.
Shingles (Asphalt).—J. M. Ball, Box 30, Enaley, Ala.—Addresses of manufacturers of asphalt shingles.
Sprinkler System.—D. Greenfield estate, 814 S. Forsyth St., Atlanta, Ga.—Prices on sprinkler system.
Steel Building Material.—See Laundry Machinery, etc.—White Cross Laundry Corp.
Sweeping Compound Machinery.—Raymond Industrial Club, Raymond, Ga.—Data and prices on machinery to manufacture sweeping compound.
Thrasher.—See Feed Mill Equipment, etc. L. L. Foreman.

Tile Work, etc.—See Iron Work, etc.—Geo. W. Waring.
Trench Machine.—Dixie Good Roads Machinery Co., 335 Market St., Chattanooga, Tenn.—Second-hand trench machine.
Trucks (Motor, Fire).—See Fire, Water and Electric Systems.—Board Bond Trustees, J. R. Boulware, Secy., Lakeland, Fla.
Truck (Delivery).—See Power Plant Equipment.—City Commrs., Clarksdale, Miss.
Turpentine Machinery.—C. B. Davis Engineering Co., 734 Brown-Marx Bldg., Birmingham, Ala.—Names and addresses of manufacturers of machinery for extracting turpentine.
Valves.—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids on angle and gate valves, schedule 9028, delivery Washington.
Vaults.—People's Bank, Goldsboro, N. C. To correspond with bank or manufacturers who have burglar-proof bank vault; state dimensions, make, time used if second-hand, etc.
Washing (Gravel) Machinery.—See Gravel Plant.—Musterfield Sand & Gravel Co.
Water, Sewer and Electric Plants Supplies.—Wilbur A. Ginn, Engr., Sanford, Fla.—Catalogues and prices on sewer pipe and supplies, iron pipe and fittings, hydrants, hose, boilers, engines, dynamos, wire, poles, etc.; for water-works, sewer and electric-light plant construction.
Water-wheels.—See Electrical Equipment, etc.—Allentown Engineering Co.
Water-works.—Board Bond Trustees, J. R. Boulware, Secy., Lakeland, Fla.—Bids until Dec. 17 to construct additions to water-

works. (See Fire, Water and Electric Systems.)

Water-works Construction.—City of Oswego, Kan.—Bids soon for water-works improvements; plans ready in about 3 weeks; Albert C. Moore, Engr., Joplin, Mo.; plans include 1,000,000-gal. low service pump, boiler feed pump, 1,000,000-gal. mechanical filter plant complete, 1 1/2 mi. cast-iron pipe with hydrants and valves, 100,000-gal. steel tank on 100-ft. tower.

Water-works and Sewer System.—City of Citronelle, Ala.—Bids until Nov. 30 on construction complete water-works and sewer system; water-works includes powerhouse, steel pressure tank, reinforced concrete receiving reservoir, 50 H. P. oil engine, pump of 500 G. P. M. capacity, compressor, 25 fire hydrants, 8330 ft. class B 6-in. pipe, 2640 ft. 8-in. C. I. pipe, 10,000 ft. galvanized pipe, valves, etc.; sewer system includes 23,705 8 and 10-in. sewers, 54 man-holes and 10 lampholes, and sewage-disposal plant; specifications obtainable on application to Edgar B. Kay, Engr., Tuscaloosa, Ala.

Well Drilling.—E. M. Braden, City Recorder, Henderson, Tenn.—Bids until Dec. 3 to drill 10-in. wells; probable depth 100 to 250 ft.; specifications obtainable from Frank L. Wilcox, Engr., Syndicate Trust Bldg., St. Louis, Mo.

Wire (Barbed and Galvanized).—See Agricultural Implements, etc.—Edgar Franklin & Co.

Wire (Card).—Alfredo Vital, Consejo de Ciento 356, Barcelona, Spain.—Interested in card steel wire; could secure orders for 10,000-20,000 kilos; for use in card manufacturing mills.

Yarns.—See Clothing, etc.—Alexis & Gahakis.

RAILROAD CONSTRUCTION

RAILWAYS

Ga., Atlanta.—Georgia Ry. & Power Co. is reported considering construction of Interurban line from Atlanta to Roswell, Crabapple and Alpharetta, about 25 mi. P. S. Arkwright is Pres. at Atlanta.
Ky., Barbourville.—A letter to the Manufacturers Record says that the general contract for the construction of the Cumberland & Manchester Ry., 24 mi. long, has been awarded to the Road Construction Co. of Philadelphia and Hazelton, Pa.; that equipment for the work is now on the way and camps will be established at several new points on the route. Construction has been in progress on the Barbourville end for some time; C. F. Heldrick, Brooksville, Pa., is Pres. and M. E. S. Posey, Barbourville, Ky., is Ch. Engr.
Ky., Whitesburg.—Chesapeake & Ohio Ry. denies report that it contemplates construction of a branch up Beaver Creek.
N. C., Durham.—The report that local business men proposed to build an electric railway from Durham to Chapel Hill, 10 mi., and lease it to the Alamance, Orange & Durham Electric Ry. Co. is denied. That company is endeavoring to extend its line from Chapel Hill to Durham, with prospect of success next

year. Junius H. Harden of Burlington, N. C., is Pres.

Okla., Henryetta.—Henryetta, Oklahoma & Western Ry. Co. is reported to have established an office in Henryetta and is preparing 16 survey for its proposed line to Kusa, Dewar and other towns. R. D. Long of Muskogee, Okla., or the Arlucle Construction Co. of Oklahoma City may be able to give information.

Tenn., Cleveland.—Tennessee Power Co. may convert to electric operation a 6-mi. railroad from Parksville, which connects with the Louisville & Nashville R. R. near the Shelton Farm, and an extension to Cleveland is being talked of. H. M. Linn of Cleveland may give information.

Va., Chester.—The Seaboard Air Line says there is absolutely nothing in a recent press report that it contemplated construction of a line from Chester to Hopewell, Va.

W. Va., Madison.—Contract for the proposed Pond Fork Ry., 14 or 15 mi. long, will be let about Jan. 10, it is reported, and it is also said that Cole & Crane will build several miles of lumber railroad, practically an extension of the other. Line is a subsidiary of the Chesapeake & Ohio Ry., of which F. I. Cabell, Richmond, Va., is Ch. Engr.

FINANCIAL NEWS

The MANUFACTURERS RECORD invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

FINANCIAL CORPORATIONS

Ark., Little Rock.—Baptist International Life Insurance Co. has filed articles of incorporation; capital \$100,000; T. L. Adkins, Pres.; E. M. Pemberton, Secy.

Fla., Baker.—Bank of Baker inceptd.; capital \$15,000; J. D. Cobb, Pres., Crestview; J. W. Baggett, V. P.; Blackman; J. A. Hart, Cash., Baker, Fla. Business is to begin Feb. 1, 1916.

Ga., Fort Valley.—The First National Bank has merged with the Citizens' Bank of Fort Valley.

La., St. Francisville.—Bank of Commerce chartered and inceptd.; began business Oct. 7 with \$15,000 capital; directors, E. G. Davis, Pres.; L. W. Rogers, V. P.; W. E. Wood, Cash.; Geo. L. Plettinger, Max Dampff, Cheston Folkes and W. R. Danial.

Mo., Irwin.—A new bank is reported being organized by W. A. McCormick of the Farmers' Bank at Sheldon.

Mo., St. Louis.—The Southern Surety Co., St. Louis and Muskogee, and the Southwestern Surety Insurance Co., Denison, Tex., have merged, the merger to become effective Jan. 1. Headquarters of the company will be in St. Louis, and its capital will be \$600,000 and surplus \$300,000.

N. C., Raleigh.—Home Insurance Agency, Inc., is organized with \$25,000 capital by J. C. Mathews, R. T. Gowan and H. H. Hutchinson.
N. C., Thomasville.—Home Building & Loan Assn. inceptd.; Z. A. Griffith, Pres.; C. G. Hill, V. P.; J. M. Wood, Secy. and Treas., and B. B. Vinson, Atty. Business is to begin immediately.

Okla., Vinita.—Mid-West Farm Loan Co. is chartered; capital \$5000; incorporators, C. C. Roberts, Sota J. Campbell, D. H. Wilson.

S. C., Rock Hill.—Citizens' Bank & Trust Co. will soon begin business with J. W. O'Neal, Pres.; D. C. Johnston, V. P.; Georgia A. Beach, Cash., and John R. Shurley, Asst. Cash.

Tex., Mathis.—Mathis National Bank chartered; capital \$25,000; organizers, John S. Wagner, J. D. Baldwin, B. F. Smith, J. A. Nelson, J. H. Nelson and R. E. Ellis.

Va., Petersburg.—Southside Virginia Title Corporation chartered; capital \$10,000 to \$50,-

000; Charles F. Camp, Pres.; Edward L. Potter, V. P., both of Hopewell, and George R. Mayo, Secy. and Treas., Washington, D. C.

W. Va., St. Albans.—Coal River Insurance Co. chartered; capital \$10,000; incorporators, O. F. Payne, T. M. Gwinn and T. W. Woodward, Charleston, and W. H. Wilson and W. E. Mohler, St. Albans.

NEW SECURITIES

Ala., Camden.—Election is to be held Dec. 6 to vote on \$15,500 water-works, \$2250 sewer and \$4250 street-improvement bonds. Address The Mayor.

Ala., Fairhope.—Election is soon to be held to vote on \$5000 water-works and \$5000 electric-light-plant bonds. Address The Mayor.

Ala., Florence.—\$210,000 5 per cent. 20-year \$1000 denomination water-works bonds are voted and will probably be placed on the market in 30 days; C. E. Jordan, Commr. Public Property.

Ark., Heavener.—\$25,000 electric-light plant bonds are voted. Address The Mayor.

Ark., Marion.—Bonds of Drainage Dist. No. 7, Crittenden county, will be sold on Dec. 10. Address Board of Commissioners.

Fla., Bartow.—\$256,000 6 per cent. bonds Peace Creek Drainage Dist. bonds have been purchased at 95 and accrued interest by A. B. Leach & Co., New York.

Fla., Clearwater.—\$715,000 5 per cent. 30-year Pinellas county road bonds are voted. C. W. Wiekling is Clerk Board County Commrs.

Fla., Fort Lauderdale.—Election to vote on \$165,000 road and bridge bonds will be held Dec. 11. Address County Commrs.

Fla., Fort Myers.—Report that city proposes to issue \$25,000 bonds for streets, sewers, etc., is erroneous.

Fla., Jacksonville.—Board Commrs. Duval County has adopted resolutions providing for issue of \$300,000 5 per cent. bonds to take up outstanding indebtedness.

Fla., New Smyrna.—Lake Ashby Drainage Dist. bonds are to be placed on the market. Address B. H. Wilson.

Ga., Gainesville.—\$80,000 4 1/2 per cent. school bonds defeated.

Ky., Georgetown.—Election is to be held in Scott county Jan. 15 to vote on \$100,000 road bonds. Address County Commrs.

Ky., Lexington.—\$350,000 4 1/2 per cent. 35-year sewer bonds are voted. J. E. Cassidy is Mayor.

Ky., Louisa.—\$50,000 Chawswick township, Lawrence county, 4 1/2 per cent. 10-year road bonds have been purchased by the Fletcher-American National Bank, Indianapolis, through the Citizens' National Bank of Bedford.

La., Lafayette.—Election is to be held in Lafayette parish to vote on \$14,000 Broussard School Dist. bonds. Address J. A. Roy.

La., Mansfield.—Petition is being circulated in DeSoto Parish asking Police Jury to call election to vote on \$280,000 road bonds. Address Police Jury.

La., New Orleans.—Bids will be received until 11 A. M. Dec. 15 for \$1,334,000 5 per cent. paying certificates. A. G. Hicks is Commr. of Public Finances.

La., Shreveport.—The \$1,200,000 4 1/2 per cent. \$1000 denomination water and sewer bonds recently voted will be offered Jan. 2. Robert H. Ward is Commr. of Dept. Acts. and Finances.

Miss., Ellisville.—Myrick School Dist., Jones county, bonds are voted. Address D. R. Hunt, Secy., R. F. D. No. 1, Laurel.

Miss., Gulfport.—Bids will be received until Dec. 1 for \$4640 6 per cent. 20-year Consolidated School Dist. No. 1, Harrison county, bonds. Address District Secy.

Miss., Louisville.—\$12,000 6 per cent. 20-year bonds issued to liquidate outstanding indebtedness have been purchased by Well, Roth & Co., Cincinnati, at par and premium \$311.

Miss., Meridian.—The \$100,000 agricultural high-school bonds which Lauderdale county proposes to issue will be 5-25-year 6 per cent. Address Board of Suprvs.

Miss., Ripley.—\$13,000 6 per cent. school bonds have been sold. H. R. Spight, City Clerk.

Miss., Senatobia.—Bids will be received until 2 P. M. Dec. 6 for \$12,000 5 per cent. \$500 denomination Tate County Agricultural High School bonds; dated Jan. 1, 1915; maturity Jan. 1, 1941. J. A. Wootin is Clerk Board of Suprvs.

Miss., Wesson.—Bids will be received until Dec. 7 by P. S. Burt, City Clerk, for \$18,-

[Continued on Page 66.]

SEABOARD AIR LINE RAILWAY

FIFTEENTH ANNUAL REPORT—FOR THE FISCAL YEAR ENDED JUNE 30, 1915.
 Portsmouth, Va., October 28, 1915.
 To the Stockholders of the Seaboard Air Line Railway—
 The Board of Directors submits the following report of the operations of the property for the year ended June 30, 1915:

INCOME ACCOUNT FOR YEAR ENDED JUNE 30, 1915.

	1915.	1914.	Decrease.
Gross Revenue	\$21,280,462 79	\$25,420,503 24	\$4,140,040 45
Operating Expenses and Taxes	15,984,781 03	18,462,705 92	2,477,924 89
Net Operating Revenue (after Taxes)	\$5,295,681 76	\$6,957,797 32	\$1,662,115 56
Uncollectible Railway Revenue	8,902 94		\$8,902 94
Operating Income	\$5,295,681 76	\$6,957,797 32	\$1,662,115 56
Other Income	348,227 69	208,996 38	*49,231 31
Hire of Equipment	(Cr.) 85,616 97	(Dr.) 266,223 68	*351,840 65
Gross Income	\$5,720,623 48	\$6,990,570 02	\$1,269,946 54
Rents and Other Charges	300,735 63	172,418 35	*28,317 28
Applicable to Interest	\$5,519,887 85	\$6,818,151 67	\$1,298,263 82
Fixed Interest Charges	3,928,255 49	3,893,935 91	*34,319 58
Balance	\$1,591,632 36	\$2,924,215 76	\$1,332,583 40
Full 5 per Cent. Interest on Adjustable (Income) Bonds	1,250,000 00	1,250,000 00	
Net Income	\$341,632 36	\$1,674,215 76	\$1,332,583 40

*Increase.
 Note—Revenue and Expense figures for the year 1914 have been revised for comparative purposes to agree with the Interstate Commerce Commission's classification effective July 1, 1914.

The Gross Revenue decreased 16.23 per cent., Operating Expenses decreased 14.55 per cent., Taxes increased 6.33 per cent., Operating Expenses and Taxes decreased 13.42 per cent., and Operating Income decreased 24.32 per cent.

The Operating Expenses, exclusive of Taxes were 70.12 per cent. of the Gross Revenue, as compared with 68.70 per cent. the previous year, and including Taxes, 75.11 per cent. of Gross Revenue, as compared with 72.63 per cent. for the preceding year.

MILEAGE OPERATED.

The mileage of the Seaboard Air Line Railway in Operation on June 30, 1914, was 3,097.55
 Extensions, etc., constructed during the year 26.41
 Less Spur Tracks taken up .82
 25.59

Mileage in operation June 30, 1915 3,123.14
 Made up as follows:

MILEAGE OWNED.

The owned mileage of the Seaboard Air Line Railway and branches on June 30, 1914, was 3,021.83
 Extensions, etc., constructed during the year 26.41
 Less Spur Tracks taken up .82
 25.59

Mileage owned June 30, 1915 3,047.42

LEASED LINES.

Melroin, Ga., to Lyons, Ga.	57.65
Howells, Ga., to Atlanta, Ga.	3.60
Hilton, N. C., to Navassa, N. C.	2.40
At Birmingham, Ala.	.07
Freight Yard Junction, Birmingham to Bessemer, Ala.	14.88
At Bessemer, Ala.	.16
Near Mulberry, Fla.	1.46
	79.62

DEDUCT.

Amelia Beach branch, leased to City of Fernandina, Fla.	2.00
Silver Springs, Fla., branch, leased to the Ocala Northern Railway	1.90
	3.90

Total mileage operated June 30, 1915 3,123.14
 Average miles of road operated during the year 3,105.59
 Average miles of road operated shows an increase over previous year of 00.69%
 Sidings (including 21.83 miles on leased lines and trackage) 867.05

SECOND TRACK.

Hamlet, N. C., northwardly	9.61
At Birmingham, Ala.	3.05
Between Raleigh, N. C., and Cary, N. C.	7.59
At Tampa, Fla.	1.32
Total	21.57

CAPITAL STOCK.

There has been no change in the capital stock during the year.

FUNDED DEBT UNMATURED.

There has been no change in the funded debt during the year.

EQUIPMENT.

An Equipment Agreement, Series "Q," was entered into on July 1, 1914, for the purchase of:

- 10 Mountain Type Passenger Locomotives.
- 19 Mikado Type Freight Locomotives.
- 7 All-Steel Passenger Coaches, with reclining chairs.
- 8 All-Steel Passenger Coaches, with Walkover Seats.
- 5 All-Steel Mail and Baggage Cars.
- 7 All-Steel Postal Cars.
- 9 All-Steel Passenger and Baggage Cars.
- 9 All-Steel Express Cars.

462 Steel Upper and Underframe Ventilated Box Cars.
 for which \$169,943.81 was paid in cash, and equipment trust obligations aggregating \$1,440,000 were issued, payable in twenty consecutive semi-annual installments of \$72,000 each, bearing interest at the rate of 5 per cent. per annum. All of this equipment was received during the fiscal year.

EXTENSIONS.

Extensions to the Company's lines in Florida were completed during the year as follows:

From Bartow, Fla., to Baynard, Fla. (Lake Wales Extension)	22.04
Connor and Shallenberger Spur off Lake Wales extension	0.78
Pembroke, Fla., to Jumeau Phosphate Plant	3.59
	26.41

Spurs removed during the year 0.82

Net increase 25.59 Miles.

Bridges.

Work has been done on 16 bridges, repairing, adding signals, replacing with steel or strengthening them for heavier power. Of this number, 14 have been completed.

Seven of the above bridges were authorized during this year and five of the seven have been completed. One of the uncompleted bridges is a reinforced concrete viaduct for highway and street railway traffic on Duval street, Jacksonville, Fla., over Hogan's Creek, and the tracks of the Seaboard Air Line Railway and the St. John's River Terminal Company. This viaduct will be completed during the coming year and will be approximately 1,418 feet long, with a total width of 42 feet.

Of the bridges completed the principal ones are:

Fourth street, Wilmington, N. C., reinforced concrete highway overpass	Length, 70 feet.
Alston avenue, Durham, N. C., highway underpass, deck girders on concrete masonry	90 feet.
Eleventh street, Charlotte, N. C., highway overpass, cross-ties, concrete foundations	89 feet.
Armour, Ga., reinforced concrete double-track extension, Southern Railway overpass	78 feet.
Whitford avenue, Atlanta, Ga., highway underpass, eyebeams on pile foundations	56 feet.
Howells Mill road, near Atlanta, Ga., highway overpass, plate girders on cross-ties	120 feet.
Gaston street, Chester, S. C., highway overpass, timber construction with concrete masonry	80 feet.

The total expenditures for bridge work during the year were \$72,776.47, of which \$70,496.92 was charged to Capital Account and \$1,729.55 to Operating Expenses.

RAIL IN MAIN LINE.

The total operated main line single track mileage of the system, 3,123.14 miles, is laid with steel rails of the following weights:

Miles.	Weight.
11.45	90 -pound rail.
361.08	85 -pound rail.
84.41	80 -pound rail.
1,211.76	75 -pound rail.
163.48	70 -pound rail.
201.05	65 -pound rail.
18.87	60 -pound rail.
60.48	55 -pound rail.
3.66	50 -pound rail.
493.55	45 -pound rail.
34.95	40 -pound rail.
221.38	35 -pound rail.
256.73	30 -pound rail.
	25 -pound rail.

The above does not include:

SECOND TRACK.

Northward from Hamlet, N. C.:	
9.09 Miles	90 -pound rail.
At Birmingham, Ala.:	
1.43 Miles	75 -pound rail.
1.62 Miles	70 -pound rail.
Raleigh, N. C., to Cary, N. C.:	
5.88 Miles	85 -pound rail.
1.71 Miles	75 -pound rail.
At Tampa, Fla.:	
1.32 Miles	75 -pound rail.

LEASED LINES.

Silver Springs Branch:	
1.20 Miles	60 -pound rail.
70 Miles	55 -pound rail.
Amelia Beach Branch:	
2.00 Miles	50 -pound rail.

MAINTENANCE OF EQUIPMENT.

The equipment of the Railway was properly maintained during the year at a cost of \$3,175,642.45. (See general remarks below.)

Included in the cost of maintenance is \$28,614.49, representing value of equipment destroyed or retired from service during the year and credited to Cost of Equipment.

There was also included in the Cost of Maintenance \$412,626 for depreciation, which was credited to Reserve for Accrued Depreciation.

The cost of maintenance per article owned was as follows:
 Average cost per annum per locomotive owned \$2,965 40
 Average cost per annum per passenger car owned 733 71
 Average cost per annum per freight car owned 64 11

GENERAL REMARKS.

On account of the European war the important agricultural and industrial activities served by our lines were affected, resulting in a decrease in gross revenues of \$4,140,040, or 16.23 per cent., as compared with the previous year.

This decrease was largely caused by the interruption of the exportation of certain commodities consisting principally of cotton, phosphate rock and naval stores, and the importation of fertilizer materials. The business depression resulting from the war also caused decreases in movements of lumber, fertilizer, general merchandise and practically all other commodities. Weather conditions in Florida, unfavorable to trucking, also caused a decrease in the perishable vegetable shipments.

The general business depression caused also a decrease in passenger business.

As an offset against the decrease in revenue above shown, a reduction was made in Operating Expenses amounting to \$2,541,172, or 14.55 per cent. The greatest item of reduction was made in Transportation Expenses, consisting of \$1,577,776, or 16.8 per cent.

Realizing at the outset of the European war that there was a necessity for the greatest possible economy consistent with safety and proper upkeep, a careful searching analysis was made of the proposed expenditures for Maintenance of Way and Structures and Maintenance of Equipment for this fiscal year, and a plan laid out by which only such expenditures were made as were absolutely necessary to comply with the conditions above outlined. By these means your property has been fully maintained.

Extensive improvements and additions have been made to the General Office building at Portsmouth, Va., which consisted of remodeling, with fireproof construction, the original building, adding two stories thereto, and thereby providing modern office facilities. No promise has been made for the occupancy of these offices for any stipulated period, but it is felt that as long as the present conditions last the arrangement is of advantage to the Company.

During this year a contract was entered into with the Southern Railway providing for the joint use of the Seaboard Air Line and the Southern Railway's tracks between Raleigh, N. C., and Cary, N. C., as a double track, these tracks being immediately parallel for the entire distance.

One and thirty-two hundredths miles of double track has been put into service at Tampa, Fla., from Tampa Northern Junction to Twigg street.

A Union Station at Bartow, Fla., has been built during the year, and the one at Hartsboro, Ala., mentioned in last year's report, has been completed.

A passenger station has been completed at Marston, N. C., and the one at Rockingham, N. C., mentioned in last year's report, has been finished.

Combination passenger and freight stations have been constructed during the year at North, S. C., Terra Ceia, Fla., and Kingsland, Ga.

The freight depot at Carrsville, Va., has been extended, providing passenger facilities therein. A freight depot has been built during the year at Hawthorne, Fla.

At Apex, N. C., both a passenger station and a freight station have been provided, together with necessary track changes and additions to serve same.

The passenger shelter shed and granolithic walks at Portsmouth, Va., mentioned in last year's report, have been completed.

At Wake Forest, N. C., an umbrella shed has been provided in connection with present passenger facilities.

A passenger shed has been provided at South Clinton, S. C.

A car repair shed has been provided at Cayce, S. C., in connection with other shop facilities.

Necessary dredging has been done at Jacksonville, Fla., in ship between Warehouses No. 2 and No. 3, to maintain proper depth of water, and necessary dredging is now in progress in slips 1, 2 and 3, and river front, at Hutchinson's Island, Savannah, Ga.

The reinforced concrete coal elevator with 300-ton storage bin at Savannah, Ga., mentioned in last year's report, has been completed.

The 100,000-gallon capacity steel tank, together with pipe lines for auxiliary fire protection at Hutchinson's Island, Savannah, Ga., mentioned in last year's report, has been completed and put into service.

Modern interlocking plants have been provided at Burroughs, Ga., and Bartow, Fla., and the one at Pembroke, N. C., mentioned in last year's report, has been completed.

A wooden cotton platform has been provided at Greenwood, S. C., and a reinforced concrete cotton platform provided at Maxton, N. C.

Paving and street work has been done at Henderson, N. C.; Columbia, S. C.; Cordele, Ga.; Columbus, Ga.; Manatee, Fla.; Bradenton, Fla., and at several other points on the system, to comply with municipal requirements.

Crossing gates have been installed at Hermitage Road, near Richmond, Va., and on Elmwood avenue, Columbia, S. C.

A coal trestle has been built jointly with the Durham and Southern Railway at Durham, N. C., during the year.

Additional storage tracks have been provided during the year at Nitrolee, S. C.

Interchange tracks have been provided with the Maxton, Alma and Southbound Railroad at Alma, N. C., with the Norfolk Southern Railroad Company, at Charlotte, N. C., and the Southern Railway, at Franklin, Va.

Three track scales were rebuilt with concrete foundations and steel "I" beams replacing wood.

Three old water tanks at McKenny, Va.; Collins, Ga., and Palmetto, Fla., were replaced with modern 50,000-gallon tanks and suitable pumping facilities provided.

New water station has been provided at Schofield, S. C.

Sixty-five industrial sidings and extensions to industrial sidings already existing have been constructed or are in process of construction.

Forty depots and freight stations have been constructed or substantially added to during the year.

Seventeen passing tracks have been constructed or extended or are in process of construction.

The use of cross-ties piling has been continued in maintenance work on docks, wharves and trestles.

The work of the Valuation Committee, created in connection with Section 19-A of the Federal Act to Regulate Commerce, referred to in the last annual report, was continued during the year at a cost of \$57,215.39, which was charged to General Expenses—an increase of \$2,232.10 over the preceding year.

The accounts for the fiscal year were examined by Messrs. Haskins & Sells, whose certificate appears on page 11 of pamphlet report.

There were no changes in the organization during the year.

The Directors wish to record herein their appreciation of the loyalty, efficiency and co-operative spirit displayed by the officers and employees of the Company during this trying year.

By order of the Board.

W. J. HARAHAN, President.

ATLANTIC COAST LINE RAILROAD COMPANY

Richmond, Va., November 16, 1915.

To the Stockholders of the Atlantic Coast Line Railroad Company—

The Board of Directors of the Atlantic Coast Line Railroad Company respectfully submits the following report for the fiscal year ended June 30, 1915:

Miles owned June 30, 1914..... 4,567.74

Miles owned, but not operated by this Company..... 104.91

Miles operated June 30, 1914..... 4,672.65

Miles added during fiscal year:..... 4,661.05

Fischer to Fannie, Fla. (Florida Central Railroad)..... 32.47

New line, Milldale to Eastport, Fla..... 4.13

Spurs to mills and factories..... 6.39

Total added to operated lines, account re-survey..... 3.98

Less:..... 46.97

Part of Savannah Wharf Branch abandoned..... 0.08

Petersburg Branch, transferred to double-track..... 5.75

Total deducted from operated lines, account re-survey..... 4.56

Total miles operated June 30, 1915..... 4,697.63

Average mileage operated during year..... 4,689.36

Mileage owned June 30, 1915..... 4,608.47

Double-track mileage June 30, 1915..... 331.74

INCOME ACCOUNT.

1915. 1914.

Operating revenues..... \$31,536,474 88 \$36,832,779 57 Dec. \$5,296,304 69

Operating expenses and taxes..... 24,493,313 98 27,773,246 96 Dec. 3,279,932 98

Net operating revenues, less taxes..... \$7,043,160 90 \$9,059,532 61 Dec. \$2,016,371 71

Collectible railway revenue..... 14,946 74 14,946 74 Inc. 14,946 74

Auxiliary operations—Deficit..... 9,640 01 9,640 01 Dec. 9,640 01

Other income..... \$7,029,114 16 \$9,049,892 60 Dec. \$2,030,778 44

Interest and rentals..... 3,394,747 21 4,056,042 21 Dec. 751,295 00

Miscellaneous deductions from income..... \$10,333,861 37 \$13,105,934 81 Dec. \$2,772,073 44

Net income..... \$7,233,600 26 \$5,598,695 08 Inc. 124,906 18

Miscellaneous deductions from income..... \$4,610,261 11 \$7,507,239 73 Dec. \$2,896,978 62

Net income..... 309,324 95 178,231 98 Inc. 131,092 97

Total income..... \$4,300,936 16 \$7,329,007 75 Dec. \$3,028,071 59

This is a new account provided by Interstate Commerce Commission's classification effective July 1, 1914.

Operating expenses and operating revenues for auxiliary operations for current year are included in expenses and revenues of rail operations; heretofore accounting for such operations has been treated separately.

INTEREST AND RENTALS.

1915. 1914.

Interest on funded debt..... \$5,550,263 27 \$5,393,362 76

Interest on certificates of indebtedness..... 5,496 00 9,711 32

Interest on equipment trust bonds of March 1, 1907..... 43,419 99 61,429 00

Interest on equipment trust bonds of December 1, 1911..... 80,625 00 91,875 00

Interest on Brunswick & Western Income bonds..... 2,050 00 2,050 00

Totals..... 41,776 00 40,276 00

Dividends were paid as follows during the year:

To Preferred Stockholders, 5 per cent., equal to..... \$9,835 00

To Common Stockholders, 5 per cent., equal to..... \$3,427,900 00

OPERATING REVENUES.

1915. 1914. Decrease. Increase. Per cent.

Freight..... \$21,064,187 99 \$24,825,312 87 \$3,761,124 88 15.15

Passenger..... 7,853,539 42 9,212,170 39 1,358,630 88 14.75

Express..... 1,085,748 51 1,287,008 52 201,260 01 15.64

Mail..... 654,439 94 652,986 38 \$1,453 56 0.22

Crescent Baggage..... 91,829 50 116,473 10 24,773 60 21.27

Miscellaneous..... 786,559 52 738,828 40 48,081 12 6.50

Totals..... \$31,536,474 88 \$36,832,779 57 \$5,296,304 69 14.38

OPERATING EXPENSES AND TAXES.

1915. 1914. Decrease. Increase. Per cent.

Maintenance of way and structures..... \$4,572,650 63 \$5,116,944 18 \$544,293 55 10.64

Maintenance of equipment..... 5,438,461 12 6,094,705 82 656,244 70 10.77

Traffic expenses..... 661,513 69 649,820 81 \$11,692 88 1.76

Transportation expenses..... 11,291,110 13 13,118,365 62 1,827,255 49 13.93

Miscellaneous operations..... 110,546 52 110,546 52 100.00

General expenses..... 880,377 15 1,232,351 16 351,974 01 28.56

Transportation for investment—Credit..... 50,502 06 50,502 06 100.00

Taxes..... \$22,904,157 18 \$26,212,087 59 \$3,307,930 41 12.62

Totals..... 1,589,156 80 1,561,159 37 \$27,997 43 1.79

Total..... \$24,493,313 98 \$27,773,246 96 \$3,279,932 98 11.81

Note—The Accounting Classifications of the Interstate Commerce Commission were revised effective July 1, 1914. In the foregoing tables under "Income Account," "Operating Revenues," and "Operating Expenses and Taxes," the figures for 1915 are on basis of the new Classification, effective July 1, 1914. The figures for 1914 are on basis of Classification in effect prior to that date. The numerous changes in the new Classifications have rendered it impracticable to compile the figures on the same basis for each year.

Operating revenues decreased..... \$5,296,304 69, or 14.38%

Operating expenses decreased..... 3,307,930 41, or 12.62%

Net operating revenues, less taxes, decreased..... 2,016,371 71, or 22.36%

The ratio of operating expenses and taxes to operating revenues was 77.67 per cent., as compared with 75.40 per cent. for the previous year.

FREIGHT TRAIN MILES AND LOADING.

Freight cars per train mile increased..... 11.12%

Loaded cars per train mile increased..... 9.08%

Freight tons per freight train mile increased..... 4.81%

Loaded freight car mileage decreased..... 10.68%

Empty freight car mileage decreased..... 4.82%

Total revenue car mileage decreased..... 8.31%

Total revenue train mileage decreased..... 10.76%

TRAFFIC MILEAGE.

Year ended June 30, 1915. Tons. one mile. Passengers. one mile. Revenue train mileage.

June 30, 1915..... 10,507,751 1,750,912,250 7,603,261 358,379,412 15,751,971

June 30, 1914..... 13,114,739 2,040,571,529 9,153,694 417,417,644 17,650,685

Decrease..... 2,606,988 289,659,279 1,550,433 59,038,232 1,898,714

Decrease, per cent..... 19.88 14.20 16.94 14.14 10.76

TRAFFIC.

Loss of freight earning revenue decreased..... 19.88%

Mileage of revenue freight trains decreased..... 14.20%

Mileage of revenue freight trains decreased..... 21.12%

Passenger..... 16.94%

Number of passengers carried decreased..... 14.14%

Mileage of revenue passenger trains decreased..... 2.91%

Passengers per train mile decreased..... 13.04%

PROPERTY INVESTMENT AND RATE OF RETURN.

The following statement shows, for each year, the amount of investment, the amount of net income applicable to bond interest, dividends, improvement of property and strengthening of credit, and the rate of return which such net income represents on the amount of investment.

Year ended June 30,	Book value of Property Investment,*	Income applicable to bond interest, dividends, improvement of property and strengthening of credit.	Per cent. income on property investment.
1906.....	\$189,866,539 47	\$10,542,182 75	5.83
1907.....	187,519,495 52	9,002,929 34	4.80
1908.....	188,914,505 22	9,131,634 48	4.83
1909.....	186,636,159 09	10,979,931 19	5.88
1910.....	196,832,216 45	12,394,306 89	6.28
1911.....	201,238,805 66	12,061,766 59	6.49
1912.....	206,319,088 67	12,785,780 55	6.23
1913.....	217,284,946 62	13,757,970 85	6.33
1914.....	222,149,101 91	13,105,934 81	5.90
1915.....	223,054,678 33	10,333,961 37	4.63
Annual average.....	\$201,958,657 69	\$11,563,629 87	5.73

*Does not include either Cash or Material and supplies.

For the purpose of comparison, "Property Investment" figures for 1915 are revised to conform to the Classification of the Interstate Commerce Commission in effect from 1910 to 1914, and, therefore, are not the same as shown in the "General Balance Sheet" of page 36 of pamphlet report, where the investment figures for both 1914 and 1915 are on basis of the new Classification in effect July 1, 1914.

INDUSTRIAL.

Representatives of the Agricultural and Immigration Department, with a demonstration car containing an exhibit of the agricultural resources of the six States through which your lines run, visited fairs in many of the Northern and Eastern States with very gratifying results. This method of advertising has proved a very effective way of getting in personal touch with possible patrons of the road and demonstrating to them the wonderful possibilities in the way of soil and climate of the section traversed by your road.

There is an increasing interest throughout the South in improved agricultural methods. The diversification of crops, as evidenced by the increased grain production, is an encouraging indication of the work done by this Department added by the State and Federal Agricultural Departments. In some sections of your territory, there is evidence of an active and intelligent interest in stock raising and dairying. This is also a hopeful sign and will be encouraged in every possible way.

In addition to its publicity work and its efforts to stimulate interest in agricultural pursuits, the Department has been unremitting in its efforts to induce an intelligent and progressive class of immigrants to locate on the line of your road.

There were 3,684 heads of families, engaged in agricultural or industrial pursuits, located on your lines during the year, an increase of 171 over last year.

There were 315 new industries, including mills, factories and various manufactures, located on your lines during the year.

There were 153 industrial side tracks or extensions constructed during the year to reach new plants or those already in existence.

NEW CONSTRUCTION.

New double track line, 4.48 miles long, between Meadow and Falling Creek, Va. (James River Branch), was completed, but had not been put in operation on June 30, 1915.

New line, 4.13 miles long, Milldale to Eastport, Fla., was completed and put in operation in December, 1914.

Second track, Selma to Parkton, N. C., 61.69 miles, was completed and put in operation in December, 1914.

GENERAL REMARKS.

The decrease in Operating Revenues compared with previous year was \$5,296,304.69, equal to 14.38 per cent.

This shrinkage was caused by the great declines, resulting from the war in Europe, in the prices and consumption of the products and manufactures of the territory served by the Atlantic Coast Line Railroad Company and to the consequent large decrease in passenger travel.

An analysis of the tons moved in the two years shows decreases as follows:

In products of agriculture.....	6.54 per cent.
In products of animals.....	41.43 per cent.
In products of mines.....	33.30 per cent.
In products of forests.....	16.13 per cent.
In manufactures.....	28.18 per cent.
In miscellaneous freight.....	15.12 per cent.
Average.....	19.87 per cent.

As a further illustration of the great shrinkage in business throughout the whole territory served by the Atlantic Coast Line Railroad Company, freight "forwarded" revenue from the following stations shows decreases by comparison with the previous year as follows:

Norfolk, Va.....	16.79 per cent.
Richmond, Va.....	7.67 per cent.
Wilmington, N. C.....	25.23 per cent.
Charleston, S. C.....	38.34 per cent.
Augusta, Ga.....	10.82 per cent.
Savannah, Ga.....	29.78 per cent.
Jacksonville, Fla.....	11.33 per cent.
Montgomery, Ala.....	35.58 per cent.

The extension of double track from Selma to Parkton, N. C., 61.69 miles, was completed in December, 1914, thus increasing miles of double track to 331.74.

Automatic electric block signals were completed and put in operation on the double track between Collier, Va., and Pleasant Hill, N. C., a distance of 48.43 miles. This will increase automatic electric block signals to protect:

Miles of double track.....	306.26
Miles of single track.....	11.32
Total.....	317.58

Attention is called to the following statements submitted as a part of this report:

- Roadway Operations.
- Equipment.
- Additions and Betterments Charged to Cost of Road.
- Increase in Cost of Road and Equipment.
- Income Statement.
- Comparative General Balance Sheet.
- Profit and Loss Statement.
- Mortgage Bonds.
- Plain Bonds, Debentures and Notes.
- Equipment Trust, Income and Collateral Trust Bonds.
- Security for Funded Debt.
- Guaranteed Bonds, Leases and Rentals.
- Operating Revenues by months.
- Operating Expenses and Taxes by months.
- Operating Expenses for year.
- Traffic and Mileage Statistics.
- Freight Traffic Movement.

We renew the expression of our appreciation of the intelligent and faithful work done by our officers and employees.

J. R. KENLY, President.

H. WALTERS, Chairman.

COMPARATIVE GENERAL BALANCE SHEET.

June 30, 1914.	Assets.	June 30, 1915.
\$175,817,605 09	Investments:	\$177,383,973 97
	Investment in Road and Equipment.....	
	Improvements on Leased Railway Property.....	51,423 99
	Deposits in lieu of Mortgaged Property.....	6,200 00
	Sold.....	839,584 42
	Miscellaneous Physical Property.....	
	Investments in Affiliated Companies:	
	Stocks.....	\$55,910,426 99
	Bonds.....	1,878,821 80
	Notes.....	2,063,586 75
	Advances.....	360,431 61
	Other Investments:	
	Stocks.....	\$221,831 25
	Bonds.....	1,121,120 00
	Notes.....	64,390 00
	Advances.....	821,981 47
	Total.....	2,229,232 72
\$238,977,066 42	Total.....	\$240,753,692 25

[Continued on Next Page.]

Merchants-Mechanics National Bank

South and Water Sts., BALTIMORE, MD.
DOUGLAS H. THOMAS, President.
JNO. B. RAMSAY, V.-P. and Chm. Bd. of Dir.
JOHN B. H. DUNN, Cashier.
Capital \$2,000,000. Deposits \$21,670,000.
Surplus and Profits \$2,175,000.
Accounts of Banks, Bankers, Corporations and Individuals solicited.
We invite correspondence.

The National Exchange Bank of Baltimore, MD.

Hopkins Place, German and Liberty Sts.
Capital, \$1,500,000.
March 30, 1915, Surplus and Profits, \$850,000.00.
OFFICERS:
WALDO NEWCOMER, President.
SUMMERFIELD BALDWIN, Vice-Pres.
R. VINTON LANDDALE, Cashier.
C. G. MORGAN, Asst. Cashier.
Accounts of Mercantile Firms, Corporations, Banks, Bankers and Individuals Invited.

We Buy Bonds

City, County, School and Road, from Municipalities and Contractors.
WRITE
THE PROVIDENT SAVINGS BANK & TRUST CO.
CINCINNATI OHIO

WE BUY

County, City, School, Road or Drainage District Bonds.
21 Years' Experience
M. H. CUTTER & CO.
The Rookery CHICAGO

First National Bank

RICHMOND, VIRGINIA
Capital and Surplus - - - - \$3,000,000
JNO. B. PURCELL, President.
JNO. M. MILLER, JR., Vice-Pres.
W. M. ADDISON, Cashier.

WE BUY BONDS CITY, COUNTY, SCHOOL DISTRICT

CORRESPONDENCE INVITED FROM CONTRACTORS AND OFFICIALS
SIDNEY SPITZER & CO., Spitzer Building, TOLEDO, OHIO
NEW YORK CHICAGO CINCINNATI

POWELL, GARARD & CO.

39 S. La Salle Street
CHICAGO, ILL.
We buy Southern Municipal Bonds (County, City, School, Road and Drainage District).

JOHN NUVEEN & CO.

First National Bank Building, CHICAGO
We purchase SCHOOL, COUNTY and MUNICIPAL BONDS. Southern Municipal Bonds a Specialty.
Write us if you have bonds for sale.

The Trend of the Investment Situation

shows that investors are seeking more and more good bonds, as compared with the speculative securities which have been so active. There are, we believe, logical reasons why Mortgage Public Utility Bonds of the best type should receive particular consideration. Let us supply you with some timely investment information and also with some data regarding several Public Utility Bonds of merit.

Ask for our latest Investment Letter and Offering No. AG-158

A. B. Leach & Co.

Investment Securities
149 Broadway, New York
Chicago Philadelphia Buffalo
Boston Baltimore London

Delaware Trust Company

WILMINGTON, DELAWARE
INCORPORATED under broad, liberal, safe and stable Delaware laws. A fully equipped department for proper organization and registration of corporations.
BANKING AND TRUST department gives special attention to out-of-town customers' accounts.
TITLE DEPARTMENT examines and guarantees title to realty throughout Delaware.
REALTY DEPARTMENT has sites for manufacturing industries. Modern methods of management of property.
J. ERNEST SMITH, Pres. and Gen. Counsel.
WM. G. TAYLOR, Vice-Pres. and Treasurer.
HARRY W. DAVIS, Vice-Pres. and Secretary.
W. W. PUSEY, 2d Title and Real Estate Officer.

Edwin Warfield, President.

Fidelity and Deposit Company of Maryland

Home Office: Baltimore

Total Assets over \$11,000,000.00.

All Kinds and Classes of Surety Bonds and Casualty Insurance.

Largest and Strongest Surety and Casualty Company in the World.

The First National Bank of Key West, FLA.

United States Depository and Disbursing Agent.
Capital - - - - - \$100,000
Surplus and Undivided Profits - - 40,000
A general banking business transacted. Special attention given to collections.

GUNTER & SAWYERS

BUY School, Electric Light, Water, Sewer, Road, Levee and Drainage Bonds.

LITTLE ROCK, ARK. JACKSONVILLE, FLA.

GO SOUTH!

FOR SALE Timber, Coal, Iron, Ranch and Other Properties.
Southern States, West Indies, Mexico.
GEO. B. EDWARDS, (Broker)
Tribune Building, NEW YORK, N. Y.
Confidential Negotiations. Investigations. Settlements. Purchases of Property.

W.S. BARSTOW & CO.

INCORPORATED
CONSULTING and CONSTRUCTION ENGINEERS
PUBLIC SERVICE PROPERTIES FINANCED and MANAGED
50 Pine Street New York

Young & Selden Co.

BALTIMORE, MD.

DESIGNERS

AND

LITHOGRAPHERS

OF

High-Class Stationery

FOR

Banks, Mills and Commercial Houses

ATLANTIC COAST LINE RAILROAD CO.—Continued.

Current Assets:		
Cash	\$8,436,684 65	
Demand Loans and Deposits	335,513 92	
Special Deposits:		
Total Book Assets	\$1,339,268 17	
Less: This Company's own issues	575,000 00	
Loans and Bills Receivable	764,268 17	
Traffic and Car Service Balances Receivable	32,984 54	
Net Balance Receivable from Agents and Conductors	693,654 62	
Miscellaneous Accts. Receivable	485,827 77	
Materials and Supplies	1,042,088 14	
Interest and Dividends Receivable	2,872,667 14	
Other Current Assets	1,437,210 50	
Total	\$16,132,368 69	
Deferred Assets:		
Working Fund Advances	\$7,428 50	
Insurance and Other Funds:		
Total Book Assets	\$262,001 39	
Less: This Company's own issue	150,000 00	
Unadjusted Debits:		
Other Unadjusted Debits	112,001 39	
Securities Issued or Assumed:		
Par value of holdings—	\$119,429 89	
1915, \$19,263,779.92		
1914, \$21,619,234.05		
Grand Total	\$974,848 81	
	\$256,203,743 81	

COMPARATIVE GENERAL BALANCE SHEET.

June 30, 1914.	Liabilities.	June 30, 1915.
\$67,558,000 00	Stock:	\$67,558,000 00
1,000,000 00	Common Stock	1,000,000 00
196,700 00	Class "A" Richmond & Petersburg Railroad Co. Stock	196,700 00
\$68,754,700 00	Preferred Stock	\$68,754,700 00
4,469,597 50	Premiums realized on Capital Stock	4,819,522 50
\$73,224,297 50	Total	\$73,574,222 50
\$3,223,000 00	Long Term Debt:	\$3,223,000 00
\$9,694,000 00	Equipment Trust Obligations	\$9,694,000 00
35,000,000 00	Mortgage Bonds:	35,000,000 00
41,000 00	Book Liability	41,000 00
4,619,135 00	Held by or for this Company	4,619,135 00
\$132,577,135 00	Collateral Trust Bonds	\$132,577,135 00
\$600,877 91	Income Bonds	\$600,877 91
2,067,966 32	Miscellaneous	2,067,966 32
\$56,831 30	Total	\$56,831 30
477,614 81	Current Liabilities:	477,614 81
5,550 75	Traffic and Car Service Balances Payable	5,550 75
103,000 00	Audited Accounts and Wages Payable	103,000 00
2,389,530 00	Miscellaneous Accounts Payable	2,389,530 00
1,151,659 49	Interest Matured Unpaid	1,151,659 49
2,925 25	Dividends Matured Unpaid	2,925 25
\$7,666,254 86	Funded Debt Matured Unpaid	\$7,666,254 86
\$95,032 11	Unmatured Dividends Declared	\$95,032 11
\$780,579 69	Unmatured Interest Accrued	\$780,579 69
260,238 36	Unmatured Rents Accrued	260,238 36
694,443 05	Total	694,443 05
981,598 58	Deferred Liabilities:	981,598 58
9,386,421 73	Other Deferred Liabilities	9,386,421 73
478,721 16	Unadjusted Credits:	478,721 16
\$12,492,002 57	Tax Liability	\$12,492,002 57
\$73,820 15	Insurance and Casualty Reserves	\$73,820 15
30,075,301 62	Operating Reserves	30,075,301 62
\$30,149,021 77	Accrued Depreciation—Road	\$30,149,021 77
\$256,203,743 81	Accrued Depreciation—Equipment	\$256,203,743 81
	Other Unadjusted Credits	
	Total	
	Corporate Surplus:	
	Additions to Property through Income and Surplus	
	Profit and Loss, Credit Balance	
	Total	
	Grand Total	

[Continued from Page 63.]

600 6 per cent. 20-year water and electric-light bonds.

Mo., Cape Girardeau.—\$40,000 park bonds are voted. Address The Mayor.

Mo., Galena.—Election is to be held Dec. 4 to vote on \$35,000 5 per cent. 20-year Stone county courthouse bonds. Address County Commrs.

Mo., Gallatin.—\$20,000 5 per cent. 7-30-year light and water bonds recently reported sold were purchased by the Wm. H. Compton Co., St. Louis.

Manufacturers and Farm Loans

American manufacturers are making money now. Some of their profits ought to be invested in Farm Loans.

We offer mortgages of the choicest character on farms in Georgia and Alabama. These States are leaders in the great campaign of crop diversification that will revolutionize the South.

It is inevitable that land values will increase from year to year.

THE SOUTHERN MORTGAGE COMPANY
Capital \$300,000 Established 1870
Atlanta, Georgia

Mo., Jefferson City.—\$25,000 hospital and \$25,000 jail, Cole county, bonds defeated.

Mo., Lees Summit.—The \$28,000 water-works bonds to be voted on Nov. 23 are 5-30-year 5 per cents. Address T. P. Gunn.

Mo., Neosho.—\$48,000 high-school bonds are voted. Address The Mayor.

Mo., Poplar Bluff.—Steps are being taken to call an election in Butler county to vote on \$275,000 road-improvement bonds. Address County Commrs.

Mo., St. Joseph.—Bids will be received until 3 P. M. Dec. 10 for \$55,000 4½ per cent. \$1000 denomination funding bonds, dated Dec. 1, 1915. Frank M. Lemmon is City Comp.

N. C., Bladenboro.—\$25,000 Bladenboro township, road bonds are voted. Address Town Commrs.

N. C., Danbury.—\$50,000 Yadkin township, Stokes county, road bonds defeated.

N. C., Franklin.—\$15,000 Cowee township, Macon county, road bonds defeated.

N. C., Gastonia.—Election is to be held Dec. 7 to vote on tax to authorize issue of \$25,000 bonds Belmont Graded School Dist., South Point township, Gaston county. Address County Commrs.

N. C., Gastonia.—Bids will be received until 7:30 P. M. Dec. 14 for \$100,000 5 per cent. 30-year school bonds. C. B. Armstrong is Mayor and T. A. Ratchford, City Clk. For

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J. H. WOO
J. K. FLEM

the particulars will be found in the advertising columns.

N. C., High Point.—An election is to be held. It is stated, to vote on \$50,000 street-paving bonds. Address The Mayor.

N. C., Kinston.—\$50,000 street-paving bonds have been purchased, at par less expenses amounting to about \$250,000, by Bolger, Moser & Willaman, Chicago.

N. C., Morehead City.—Bids will be received until 8 P. M. Dec. 9 for \$16,000 5½ per cent. 30-year bonds issued to fund debt incurred in improving streets and other necessary expenses. M. L. Willis is Secy.-Treas., Town of Morehead City. Further particulars will be found in the advertising columns.

Okla., Commerce.—Election is to be called to vote on bonds for water-works, estimated to cost about \$40,000. Address Board Town Trustees.

Okla., Chickasha.—Election will probably be held in Grady county to vote on \$100,000 road and bridge bonds. Address County Commrs.

Okla., Henryetta.—Election was held Nov. 18 to vote on \$100,000 water department improvement bonds. Result not stated. Address The Mayor.

S. C., Summerville.—Date for election to vote on \$20,000 6 per cent. 20-year street improvement bonds not yet decided. L. A. Walker is Chmn. Committee on Ways and Means.

S. C., Waterboro.—\$15,000 5 per cent. 20-40-year water and sewer bonds have been purchased by Cincinnati parties.

Tenn., Lonsdale. P. O. Knoxville.—\$30,000 street and school bonds have been purchased by Cutter & Co., Chicago, at \$500 premium.

Tenn., Murfreesboro.—Election to vote on \$100,000 Rutherford county 20-year turnpike bonds is to be held Dec. 14. J. C. Ransom is Chmn. Board County Commrs.

Tenn., Sweetwater.—No satisfactory bids were received Nov. 15 for the \$15,000 5 per cent. 15-20-year school and street bonds. W. T. Lenoir is Mayor and J. M. Jones Town Recorder.

Tex., Austin.—The Attorney-General has approved the following securities: \$4000 Dist. No. 43 and \$1500 Dist. No. 29 Gonzales county 5 per cent. bonds.

Tex., Batesville.—\$40,000 bonds Road Precinct No. 3, Zavalla county, are voted. Address County Commrs.

Tex., Corsicana.—Bids for \$80,000 paving, \$5,000 school and \$20,000 sewer 5 per cent. 40-year \$100 denomination bonds recently voted will be opened Nov. 30. Address J. A. Harper.

Tex., Edna.—\$71,000 5 per cent. 25-year \$1000 denomination bonds Jackson County Drainage Dist. No. 8 are being offered for sale. J. W. Bagby is County Judge.

Tex., Fort Stockton.—\$28,000 water-works bonds to be voted on Dec. 11 are 10-40-year 5 per cents. Denomination \$1000. Address James Rooney.

Tex., Fredericksburg.—Election is to be held Dec. 7 to vote on \$300,000 5 per cent. 5-40-year Gillespie county road bonds. Press reports erroneously stated election would be held Nov. 7. Address County Commrs.

Tex., Galveston.—Election is to be called to vote on \$875,000 bonds for following purposes. For paving, drainage and improving streets, etc., \$250,000; for repairing, restoring or submerging water mains across Galveston Bay, \$300,000; for restoring and improving streets, alleys, etc., damaged during August storm, \$300,000; for funding debt and paying cost and expenses incurred for repairing damage to public properties following storm, \$125,000. Address Mayor Fisher.

Tex., Houston.—\$275,000 5 per cent. harbor bonds have been purchased by the Harris Trust and Savings Bank, Chicago.

Tex., Marshall.—\$50,000 viaduct bonds to be voted on Dec. 4 are 10-40-year 5 per cents. H. O. Wilson is Mayor.

Tex., Rusk.—\$150,000 Dist. No. 1, Cherokee county, road bonds defeated.

Tex., San Marcos.—\$10,000 6 per cent. Hays county warrants have been purchased by J. L. Arlitt, Austin, Tex.

Tex., Sweetwater.—Election is to be held in Nolan county Dec. 18 to vote on \$150,000 courthouse and \$100,000 Precinct No. 1 road bonds. Address County Commrs.

Tex., Tyler.—\$100,000 Smith county road bonds defeated.

Va., Suffolk.—All bids received Nov. 18 for \$70,000 4½ per cent. 30-year \$500 denomination school, street, sewer, fire-equipment and police-station improvement bonds were rejected, and they will be readvertised as 5 per cents. W. S. Beamon is Supt. Dept. Public Finance and Accounts.

W. Va., Grafton.—\$15,000 5 per cent. 1-30-year \$500 denomination hospital bonds have been purchased at \$277.50 premium by Seasingood & Mayer, Cincinnati, O.

W. Va., Kenova.—Bids will be received until 1 P. M. Dec. 20 for \$55,000 5 per cent. 30-year \$500 denomination sewerage bonds. J. S. Crossen is Mayor and J. W. Collins, Recorder. Further particulars will be found in the advertising columns.

W. Va., Wellsburg.—Election is to be called in Brooke county to vote on \$600,000 road bonds. Address County Commrs.

W. Va., Woodsdale.—Bids will be received until noon Dec. 10 by J. N. Dowler, Mayor, for \$6500 5 per cent. 10-34-year \$500 denomination fire-department bonds, dated June 1, 1914.

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Loans and Discounts.....\$ 9,473,947.73	Capital Stock.....\$ 1,500,000.00
Overdrafts.....256.07	Surplus and Profits.....1,734,416.74
U. S. Bonds (par).....1,500,000.00	Reserved for Taxes.....37,110.00
State of Alabama Bonds..280,000.00	Circulation.....1,400,000.00
Other Stocks and Bonds..862,861.15	
Banking House.....365,500.00	
Other Real Estate.....8,800.00	
CASH	DEPOSITS
In Vault.....\$ 950,471.54	Individual...\$10,194,497.32
With Banks..2,556,469.25	Bank.....1,466,520.63
With U. S. Tr. 86,000.00	U. S.....66,396.75
With Federal Res. Bank..314,635.70	
\$ 3,907,576.49	\$11,727,414.70
\$16,398,941.44	\$16,398,941.44

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INDUSTRIAL NEWS OF INTEREST

Items of news about industrial, railroad or financial interests, building operations, construction work, municipal improvements, or the sale of machinery or the letting of contracts in the South or Southwest, are invited from our readers whether they are advertisers or subscribers or not. We invite information of this character from readers in the North and West about their Southern business operations, as well as from Southern readers. News of value will be published just as readily when from non-advertisers as from advertisers.

To Build Lime-Grinding Plant.

Announcement is made that E. V. Correll will erect a plant at Shaleville, N. C., to grind limestone for agricultural purposes. The headquarters of this new enterprise will be located at Hot Springs, N. C.

Removal Notice.

Brown & Clarkson, civil and mining engineers, of Washington, D. C., have removed from the Star Bldg. to the Oxford Bldg., corner of 14th St. and New York Ave., of that city. Both members of this firm, which is specializing in topographic engineering and precise surveys for city planning, reclamation and power development, were for a number of years connected with the United States Geological Survey. They did the topographic mapping of the Cincinnati topographic survey, covering an area of 100 square miles, for the Department of Sewerage Investigation of the City of Cincinnati.

Manufacturer Wants Supplies.

A new firm, known as the Nichols Grate Radiator Co., has been organized in Atlanta, Ga., with offices at 45 E. Hunter St., for the purpose of developing and manufacturing a heating device which is applied to open grates and is said to produce four times the heat with the comfort of a log fire. The company in writing of its organization states that it is in need of the following supplies: Polished sheet brass, 26 gauge; Russian sheet iron, 26 gauge; American sheet iron (rustless if possible), 26 gauge; wrought bar iron, 1x3/4-inch and 1 1/2x3/4-inch sizes, and oval-head stove bolts, 3/4x3-16 inches.

Asbestos Roofing Contracts.

The following contracts have been secured by the Baker & Holmes Company of Tampa, Fla.: Through Roberts & Lee, a 4-ply built-up asbestos roofing, produced by the H. W. Johns-Manville Company, New York, for a schoolhouse at Fort Meade, Fla.; through W. C. Robertson Company, a Johns-Manville 3-ply built-up asbestos roofing for a Winterhaven (Fla.) school building, and from the T. B. Sherrill Company, a 4-ply Johns-Manville built-up asbestos roof for the Michigan avenue school at Tampa. The Baker & Holmes Company has also closed a contract with the St. Petersburg (Fla.) Hardware Company to furnish it with 400 tons of Kings Windsor plaster.

Woodworking Plant for Sale.

Rendered necessary by reason of the death of the chief owner, a large modern woodworking and lumber manufacturing plant at Basic City, Va., will be offered for sale at public auction December 15, 1915, by Fitzhugh Elder and W. C. Glenn, sale commissioners. The property, which comprises about three and one-quarter acres of land lying on a switch connecting the Chesapeake and Ohio Railway and the Norfolk and Western Railway, insuring ample shipping facilities, is improved with a large factory building equipped with modern machinery, storage building, dry kilns, sheds, residence, etc., necessary for the production of high grade hardwood flooring, which is said to have been successfully manufactured by the deceased for a number of years. For terms of sale and other information address Fitzhugh Elder, Masonic Temple, Staunton, Va.

Steel Company in New Location.

Completion of the removal of the Zimmerman Steel Company from Lone Tree, Iowa, to its new location at Bettendorf, Iowa, is announced. Its plant at Bettendorf is said to be the most complete and up to date steel plant west of the Mississippi river. The buildings are constructed entirely of steel, brick, glass and tile, making them absolutely fireproof. Bettendorf adjoins Davenport on the east, and is almost in the heart of the Tri Cities of Davenport, Rock Island, Moline and East Moline.

Some of the largest manufacturers in the world in their line are located in the Tri Cities. The Rock Island Arsenal and government work on the 500-acre island in the center of the Mississippi river between the Tri Cities makes this an ideal manufacturing center and location for the Zimmerman Steel Company.

Doubles Capital Stock.

Further expansion of the Hoover Steel Ball Co. of Ann Arbor, Mich., is to be taken care of by increasing its capital stock from \$250,000 to \$500,000. Within the past 12 months that company has erected three new buildings, comprising 30,000 square feet of floor space, and has added \$160,000 worth of ball-making machinery. These additions are reported not to be sufficient to handle the increased demand for steel balls, so additional capital was authorized to be used for improvements. Last January the Hoover Steel Ball Co. brought out a new ball, known as the Micro-Chrome steel ball. Within six months the company had orders for approximately \$800,000 worth of these new balls, which are said to have met with the approval of engineers as being as near a perfect sphere as can be produced. The company states that Micro-Chrome balls have been adopted by nearly all of the annular-bearing manufacturers.

Growth of Ohio Corrugating Co.

Since the organization of the Ohio Corrugating Company, Warren, Ohio, the company has met with marked success, and its greatly increased business has necessitated the erection of plant additions. The first addition, for which contract has been awarded for immediate erection, will be 80 by 200 feet, and next spring another building, 80 by 420 feet, will be added. Part of this improvement will be used to take care of the increased business and the balance is to be used to house equipment for the manufacture of a complete line of steel shipping cases, drums and barrels. Machines and patents covering Universal one-piece stove pipe and elbows have been purchased by the company and the equipment is now being installed in its plant. The Ohio Corrugating Company has also about finished the installation of presses and machinery for the manufacture of metal ceilings and side walls with repressed bands and nail holes. It is said the erectors of these products will be assured alignment and accuracy to the one-thousandth part of an inch. Catalogs illustrating a complete line of metal ceilings and side walls and other new commodities will be ready for distribution before January 1, so the company reports.

Load-Speaking Telephone Window Demonstrations.

Inability of the demonstrator to get his "message across" has been the drawback to window demonstrations of any character. Talking points of the article under demonstration could clearly be pointed out through the medium of lettered cards only. To overcome the objection and bring the demonstrator nearer his audience, the Western Electric Company, 463 West St., New York, has developed its load-speaking telephone equipment in this connection. The equipment consists of a special transmitter and a pair of load-speaking receivers and horns. The operation is simple. The demonstrator connects the horns and receivers on both sides of his window, just high enough to be outside the reach of mischievous youngsters. In series with the transmitter, which is placed inside the window, is wired the battery of six dry cells, connected to the receivers. The system is then ready for operation. As the demonstrator wishes to bring out each point, he simply speaks into the transmitter and his voice is magnified by the receivers and horns, and carried to the audience outside. The equipment not only brings the demonstrator and his audience in more intimate contact, but serves as an auxiliary attraction to the display itself.

TRADE LITERATURE

Issues Year Book.

The Merchants' Association of New York, with offices in the Woolworth Building, New York city, has issued a comprehensive year book for 1915, outlining the activities of the organization during the period from January 1, 1914, to May 1, 1915. It contains an alphabetical classified list of the names and addresses of the members of the Association, the annual report of the president and secretary, with reports from all divisions of the organization, such as Bureau of Research, Publicity Bureau, Membership Bureau, Traffic Bureau, Industrial Bureau, Convention Bureau, etc. Plan of the organization, by-laws and rules and regulations governing the Members' Council are incorporated in the book. A handy index to classification is also provided.

National Pile Hammers.

Steam pile hammers are illustrated and described in a catalogue issued by the National Hoisting Engine Company, manufacturer of steam pile hammers, steam and electric hoisting engines and sewer cableways. Main office and works are located at Harrison, N. J., with Southern sales under the direction of the W. E. Austin Machinery Company of Atlanta. National pile hammers are of the automatic double acting type, producing a combined gravity and steam hammer that is said to drive from 115 to 250 blows a minute, according to the size of the hammer. Specifications and prices of National pile hammers, together with illustrations showing the hammers in actual operation, driving steel sheet piling while suspended from locomotive cranes and other hoisting apparatus, driving concrete piling, etc., are given in the catalogue.

De La Vergne Refrigerating Equipment.

High-speed horizontal ammonia compressors for direct connection to oil, gas or high-speed steam engines, or for belted service to any prime mover, are illustrated and described in Bulletin 151, issued by the De La Vergne Machine Co., foot of East 138th St., New York. Two years ago the company built and operated machines of the vertical type, but a new horizontal design developed by the company for running at speeds of from 150 to 200 revolutions per minute is now built and is said to prove far superior. In general, the new design contains up-to-date features in ammonia or air-compressor practice. The frame is of heavy tangye construction, to which the compressor cylinder is rigidly bolted. This is said to assure perfect alignment. A sliding support is provided under the cylinder to take care of the additional weight of ammonia connections or other appurtenances. When expansion or contraction takes place, the cylinder is so constructed as to be free to move in any horizontal direction. Advantages of direct connection, information relating to proportions of high-speed compressors, together with a general description of their construction, are brought out in the bulletin. No. 14, on De La Vergne oil-engine-driven refrigerating plants, is another bulletin recently issued by the company to illustrate a typical installation and describe its construction, starting and satisfactory operation. The installation described is a 100-ton De La Vergne type "FH" oil engine using California crude oil at the plant of the Union Ice Co., Claremont, Cal.

Force Feed Lubricating Apparatus.

Bulletin No. 50, the Phenix Force Feed Lubricator, and Bulletin No. 60, the Richardson Model "M" Sight Feed Oil Pump, both recently issued by the Richardson-Phenix Company of Milwaukee, Wis., contain respectively complete description of the Phenix ratchet type lubricator, and much new information concerning the Model "M" oil pump. Bulletin No. 50 contains an interesting diagram giving a comparison of the way in which mechanical and hydrostatic lubricators feed oil to engine cylinders and numerous illustrations showing the application of the Phenix lubricator to different types of engines, pumps, steam hammers, etc. In this bulletin is also described a new type of lubricator produced by the company known as Model "T." Bulletin No. 60 contains interesting illustrations showing the process of manufacture from the raw material to the finished lubricators on the test rack, and gives a good idea of the manner in which the

pumps are drilled and milled from a solid block of cast-iron. An interesting chapter on gas engine lubrication discusses the question of timing the admission of oil so that it is forced directly on to the engine pistons. Other items of interest are a description of the new Richardson air spray attachment, also the steam and electric attachments for heating the oil in the lubricator reservoir. A double page illustration of the New York sky-line shows that practically all important buildings in the Metropolitan district are equipped with Richardson-Phenix lubricating appliances. Copies of the bulletins may be had upon request from the Richardson-Phenix Company.

Facts on Industrial Lighting.

Suggestions regarding the proper methods of illumination as relating to the use of Mazda lamps in manufacturing enterprises are given in a pamphlet issued by the Westinghouse Lamp Co. of New York. Proper utilization and placing of lighting units and selection of reflectors, with diagrams and illustrations showing the relative value of the different types used, are described in the pamphlet, together with cost and maintenance data. After a study of lighting on the efficiency of a plant, one wonders why it has been neglected, but existing conditions seem to indicate that sufficient attention has not been given to this subject. Pointing out that the arrangement of lighting units in a plant is of paramount importance in the effective utilization of light, the pamphlet contains the following explanation: "There are three kinds of illumination—general, where the units are located near the ceiling to evenly distribute the light over the entire area; localized, where the units are hung low to reflect the light directly on a machine, bench or desk; and localized and general, a combination of the two methods. The common tendency in individual lighting is toward exclusive localized lighting with drop cords, which, except in a few special cases, is a grave mistake. The use of this method results in bright spots of light and deep shadows, which strain the operator's eyes. An operator moves a tool quickly into a bright circle of light, and then, overconfidently, into its shadow, and spoiled work or sometimes even a serious accident is the result. Often a workman leaves his brightly illuminated work, and, moving partly blinded through the semi-darkness of the rest of the shop, walks into some moving machine with disastrous effect. In practically every case where localized lighting is necessary general illumination should also be provided."

Opens Foreign Trade Information Bureau.

In a booklet entitled "Foreign Trade Building," just issued by the American Express Company, 65 Broadway, New York, announcement is made of the establishment of a foreign trade information bureau, the purpose of which is to develop future business for the American Express Company and its aim is to furnish American Express customers with service to the greatest possible extent. Communications on the foreign trade problems of any business firm in the United States or Canada will be welcomed and will be held confidential. Special facilities are provided for giving manufacturers, sending representatives, buyers, or salesmen abroad, information on routes, rates, hotels, conveyances, transportation and living expenses. American reference statements for use abroad, the securing of foreign credit reports and the maintenance of American catalogue files at the foreign offices of the company are said to be decided departures from general foreign trade promotion practice. These features are made possible through the possession of the company's own offices and foreign organizations in Europe, South America and the Far East. The Foreign Trade Information Bureau will be in charge of Donald Frothingham, who returned to this country this spring, after having concluded a first-hand study of conditions confronting American exporters, on a trip which lasted a year and a half, and which took him around the world. On the trying question of breaking into foreign markets, the American Express Company states it stands ready to render even greater service to the export trade field with its specially equipped bureau. This newest service has been planned and organized for the particular assistance of the newcomer into the field of export and import business. To these new arrivals in particular the booklet is addressed in the hope that it may make clearer the every-day problems of foreign trade.

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